

NAVAL HEALTH RESEARCH CENTER

ALCOHOL USE, ALCOHOL-RELATED PROBLEMS, AND PERCEIVED STRESS AND COPING AMONG U. S. MARINE CORPS PERSONNEL

B. McClenny

R. D. Comstock

20040121 039

Report No. 00-41

Approved for public release; distribution unlimited.

NAVAL HEALTH RESEARCH CENTER
P. O. BOX 85122
SAN DIEGO, CA 92186-5122

BUREAU OF MEDICINE AND SURGERY (MED-02)
2300 E ST. NW
WASHINGTON, DC 20372-5300



**Alcohol Use, Alcohol-Related Problems, and
Perceived Stress and Coping among
U.S. Marine Corps Personnel**

**Bonita McClenny, Ph.D.
LT MSC USN
R. Dawn Comstock, M.S.**

**Division of Operational Readiness
Naval Health Research Center
P. O. Box 85122
San Diego, CA 92186-5122**

Report No. 00-41, supported by (give name of funding source.) under research work unit HQ U. S. Marine Corps Reimbursable-6906. The views expressed in this article are those of the authors and does not reflect the official policy or position of the Department of the Navy, Department of Defense, or the U.S. Government. Approved for public release; distribution unlimited.

Contents

Chapter	Page
1. Introduction and Background	9
1.1 Purpose and Objectives	9
1.1.1 Trends in Alcohol Use and Alcohol-Related Problems	9
1.1.2 Drinking Levels and Alcohol-Related Problems	10
1.1.3 Drinking Levels and Other Health-Related Behaviors	10
1.1.4 Perceived Stress and Quality of Life	10
1.2 Organization of the Report	11
2. Methodology	13
2.1 Data Sources, Performance Rates, and Respondent Characteristics	13
2.2 Survey Questionnaire	17
2.3 Key Definitions and Measures	17
2.3.1 Demographic Characteristics	17
2.3.2 Alcohol Use, Alcohol-Related Problems, and Other Health Behavior Measures	18
2.4 Analytical Approach	19
2.5 Suppression of Estimates	20
3. Marine Corps Trends in Alcohol Use and Alcohol-Related Problems	21
3.1 Average Daily Ounces of Alcohol	21
3.2 Alcohol Drinking Levels	24
3.3 Alcohol-Related Problems	27
3.4 Summary	29
4. Drinking Levels and Alcohol-Related Problems	30
4.1 Problems Attributed to Alcohol Use	30
4.1.1 Serious Consequences	31
4.1.2 Productivity Loss Problems	32
4.1.3 Symptoms of Dependence	35
4.2 Problems Not Attributed to Alcohol Use	37
4.2.1 General Life Problems	38
4.2.2 Criminal Justice Problems/Fights	39
4.2.3 Health Problems/Injuries	40

4.2.4	Job-Related Problems	41
4.2.5	Productivity Loss	41
4.3	Demographic Correlates of Problems	43
4.3.1	Correlates of Problems Attributed to Alcohol Use	43
4.3.2	Correlates of Problems Not Attributed to Alcohol Use	45
4.4	Odds of Experiencing Problems	47
4.4.1	Odds of Experiencing Problems Attributed to Alcohol Use	47
4.4.2	Odds of Experiencing Problems Not Attributed to Alcohol Use	50
4.5	Summary	51
5.	Drinking Levels and Other Health-Risk Behaviors	53
5.1	Drinking and Driving	53
5.2	Drinking and the Use of Seat Belts	54
5.3	Drinking and Sexual Behavior	55
5.4	Health Risk Behaviors and the Odds of Heavy Alcohol Use	56
5.5	Summary	57
6.	Perceived Stress and Quality of Life	59
6.1	Appraisal of Stress	59
6.2	Demographic Correlates of Stress	60
6.3	Occupational Correlates of Stress	62
6.4	Sources of Stress	63
6.5	Coping With Stress	64
6.6	Impact of Stress on Job Performance	65
6.6.1	Interference of Stress With Military Occupation	68
6.6.2	Perceived Stress and Productivity Loss	71
6.7	Summary	71
	References	74

List of Appendices

Appendix		Page
A	Calculation of Alcohol Measures	77
B	Technical Discussion of Standardization Approach and Multivariate Analyses	82
C	1998 DoD Survey Questionnaire	85

List of Tables

Table	Page
2.1 Marine Corps Survey Response Data and Performance Rates	14
2.2 Sociodemographic Characteristics of 1998 Marine Corps Respondents and of Total Eligible Respondent Population	16
3.1 Marine Corps and Total DoD Trends in Average Daily Ounces of Ethanol Consumed, Past 30 Days, Unadjusted and Adjusted for Sociodemographic Differences, 1980-1998	23
3.2 Marine Corps and Total DoD Trends in Alcohol Drinking Levels, 1980-1998	25
3.3 Marine Corps and Total DoD Trends in Heavy Alcohol Use, Past 30 Days, Unadjusted and Adjusted for Sociodemographic Differences, 1980-1995	26
3.4 Marine Corps and Total DoD Alcohol-Related Problems, 1980-1998	28
4.1 Alcohol-Related Problems in Past 12 Months for Marine Corps, by Drinking Level	31
4.2 Occurrence of Specific Serious Consequences in Past 12 Months, by Drinking Level	32
4.3 Occurrence of Specific Types of Alcohol-Related Productivity Loss in Past 12 Months, by Drinking Level	34
4.4 Occurrence of Specific Symptoms of Alcohol Dependence in Past 12 Months, by Drinking Level	36
4.5 Unattributed Problem Areas, by Drinking Level	37
4.6 Occurrence of Specific Problems Associated With General Life Problems, by Drinking Level	38
4.7 Occurrence of Specific Problems Associated With Criminal Justice Problems/Fights, by Drinking Level	← 39 ✓
4.8 Occurrence of Specific Problems Associated With Health Problems/Injuries, by Drinking Level	40
4.9 Occurrence of Specific Problems Associated With Job-Related Problems, by Drinking Level	41
4.10 Occurrence of General Productivity Loss, by Drinking Level	42
4.11 Alcohol-Related Problems, by Selected Demographic Characteristics	44
4.12 Life Problem Areas, by Selected Demographic Characteristics	46
4.13 Adjusted Odds Ratios of Alcohol-Related Problems for Enlisted Personnel	49
4.14 Adjusted Odds Ratios of Unattributed Problems for Enlisted Personnel	52
5.1 Frequency of Drinking and Driving, by Drinking Level	53
5.2 Frequency of Seat Belt Use, by Drinking Level	54
5.3 Degree of Risk for Sexually Transmitted Disease Among Sexually Active Personnel, by Drinking Level	55
5.4 Adjusted Odds Ratios of Heavy Alcohol Use, With an Emphasis on Other Health-Risk Behaviors	58

6.1	Levels of Perceived Stress at Work and in Family Life, Past 12 Months, by Gender	59
6.2	High Perceived Stress at Work or in Family Life, by Selected Sociodemographic Characteristics	61
6.3	Levels of Perceived Stress at Work in the Past 12 Months, by Occupation	62
6.4	Specific Sources of Stress, Past 12 Months, by Gender	63
6.5	Behaviors for Coping With Stress, by Gender	64
6.6	Interference With Military Job Performance Due to Stress at Work, by Selected Demographic Characteristics	66
6.7	Interference with Military Job Performance Due to Stress in Family, by Selected Demographic Characteristics	67
6.8	Inability to Perform Military Job Due to Stress at Work, by Occupation	69
6.9	Inability to Perform Military Job Due to Stress in Family, by Occupation	70
6.10	Perceived Stress and Productivity Loss, Past 12 Months	72

List of Figures

Figure	Page
3.1 Marine Corps Trends in Average Daily Ounces of Ethanol Consumed, Past 30 Days, Unadjusted and Adjusted for Sociodemographic Differences, 1980-1998	22
3.2 Marine Corps Trends in Heavy Alcohol Use, Past 30 Days, Unadjusted and Adjusted for Sociodemographic Differences, 1980-1998	27
3.3 Marine Corps Trends in Alcohol-Related Problems, 1980-1998	29

Executive Summary

This report presents findings from analyses of U.S. Marine Corps data taken from the Department of Defense (DoD) series of Worldwide Surveys of Substance Use and Health Behaviors Among Military Personnel with emphasis on the 1998 survey. Seven surveys of the active-duty personnel, from 1980 through 1998, provide continuity of information on substance use by military personnel. The sampling designs and data collection methods have been similar throughout the survey series. Methods are clarified in the discussion of methods used for the 1998 survey. Analyses examine trends in alcohol use and alcohol-related problems, the relationship of drinking levels to alcohol-related problems and other health risk behaviors. In addition, issues of perceived stress and quality of life among active-duty Marine Corps men and women were examined.

The eligible survey population for the Marine Corps consisted of all active-duty personnel except recruits, service academy students, persons absent without leave (AWOL), and persons who had a permanent change of station (PCS) at the time of data collection. For the 1998 survey, a sample of 3,622 Marine Corps personnel completed anonymous, self-administered questionnaires. Participants were selected to represent men and women in all pay grades serving on active-duty throughout the world. Recruits, academy students, or AWOL personnel were excluded because they either were not on active-duty long enough to typify the Marine Corps or were not accessible. Those with a PCS status were excluded because of the practical difficulties of obtaining data from them quickly enough to be of use to the study.

Results of the 1998 analyses of the Marine Corps data are specified below:

Trends in Alcohol Use and Alcohol-Related Problems: 1980-1998

Overall, rates of alcohol use among Marine Corps personnel declined between 1980 and 1998. This was evident by the decrease in average ounces of alcohol consumed and in the increase in the percentage of abstainers. Ounces of alcohol consumed decreased from 1.75 ounces to 1.00 ounces. The percentages of abstainers increased from 10.4% in 1980 to 19.7% in 1998.

Serious consequences and productivity loss due to alcohol use declined significantly between 1980 and 1998, while rates of dependence symptoms remained relatively constant. Over the period, serious consequences declined from 26.2% to 12.3%, productivity loss dropped from 34.1% to 19.2%, and dependence symptoms decreased slightly from 11.8% to 8.2%. Despite these declines, rates for all three measures were substantially and consistently higher for Marine Corps personnel than for DoD personnel overall.

Thus, whereas overall alcohol use declined from 1980 to 1998, heavy use remained relatively constant. Problems due to alcohol use also declined over the period, but in 1998 some categories of problems still remained at relatively high levels. Many of these problems have clear implications for the health and readiness of the Marine Corps and the DoD.

Drinking Levels and Alcohol-Related Problems, 1998

Heavy drinkers were consistently more likely than other alcohol users in the Marine Corps to experience problems attributed to their use of alcohol. About one third of heavy drinkers

experienced alcohol-related serious consequences (30%), nearly half (45.9%) experienced some form of alcohol-related productivity loss, and approximately one third (30%) had symptoms suggestive of dependence.

Heavy drinkers also demonstrated substantially higher rates of problems comprising the individual alcohol-related problems summary measures. For example, 23.7% of heavy drinkers had been in physical fights in the past 12 months because of drinking, compared with less than 10% of other alcohol users in the Marine Corps; about 14% of heavy drinkers reported being drunk while on the job at least once in the past 12 months and about 15% had been called in to work feeling drunk. Less than 5% of other drinkers in the Marine Corps had these problems. Approximately two thirds of heavy alcohol users (62.6%) had one or more alcohol-related blackouts in the past 12 months, whereas less than 13% of infrequent/light or moderate drinkers had blackouts.

For problems unattributed to alcohol use, heavy alcohol users had higher rates than other Marines of criminal justice problems/fights. Specifically, two thirds of the heavy drinkers (34.8%) had one or more occasions of fighting or criminal justice problems, compared with about 8% to 15% for abstainers and other drinkers.

For enlisted personnel, heavy alcohol use continued to be a risk factor for the occurrence of alcohol-related serious consequences, productivity loss, and the dependence symptoms. Therefore, heavy drinkers were much more likely than other drinkers in the Marine Corps to experience alcohol-related problems.

Drinking Levels and Other Health Risk Behaviors, 1998

Heavy drinking was associated with higher frequencies of drinking and driving, not using seat belts, and an increased number of sexual partners. Approximately 37% of Marine Corps personnel categorized as heavy drinkers reported drinking and driving at least once a month, 19.2% of heavy drinkers reported using seat belts only sometimes or less, and 23.3% of heavy drinkers reported having at least 5 sexual partners in the past 12 months. Males, single personnel, and personnel in lower pay grades, were more likely to be categorized as heavy drinkers.

Heavy drinking had a strong impact on the occurrence of risky behavior. The findings suggest the need for increased attention to awareness programs that emphasize and demonstrate the consequences of heavy drinking. Policies should be employed that emphasize alcohol tolerance. Further, ecological models should be implemented that foster support throughout the Corps.

Perceived Stress and Quality of Life, 1998

Overall, Marines who were younger, less educated, and in lower pay grades were more likely to report high levels of stress. Approximately 4 in 10 Marine Corps personnel reported experiencing a great deal or a fairly large amount of stress at work in the past 12 months (prior to the study). Women (43.8%) were somewhat more likely than men (38.9%) to experience stress at work. White personnel reported higher levels of stress than African American and Hispanic Marine Corps personnel.

In terms of stress, the sources of stress indicated by the majority of personnel were:

- ❖ Being away from family-19.2%
- ❖ Financial problems-15.3%
- ❖ Increases in workload-15.2%

Men (12.8%) were more likely than women (4.1%) to indicate that deployment was a significant source of stress. Women (23.8%) were more likely than men (13.5%) to indicate that changes in the family was a significant source of stress.

Productive coping strategies were the most widely used method for dealing with stress.

Approximately 84% of Marine Corps personnel endorsed the coping strategy, "Think of a plan to solve problem." This was followed by, "Talk to friend/family" (67.9%) and "Exercise or play sports" (65.5%). The most commonly used unproductive coping strategies were "Get something to eat" (39.3%), "Light up a cigarette" (27.7%), and "Smoke marijuana/use illegal drugs" (1.5%). Overall, women were more likely to use social support networks and eating food to alleviate stress. Men were more likely to use alcohol to alleviate stress than women.

Approximately 44.1% of all Marine Corps personnel indicated some level of stress-related interference with their ability to perform their military jobs. Overall, personnel who had not graduated from college, were white, Hispanic, or other race/ethnicity, were age 25 or younger, and were in pay grades E6 and below experienced higher levels of military job performance interference due to stress.

For those personnel who experienced high levels of stress during the past 12 months (prior to the study), the most frequent work-related ramifications due to perceived stress were:

- ❖ Left work early-36.1%
- ❖ Worked below normal performance level-41.3%
- ❖ Late for work by 30 minutes or more-27.8%

Summary

Given the continued high rates of heavy alcohol consumption among subgroups of Marine Corps personnel, it is more urgent than ever to allocate resources for effective prevention and intervention programs. Furthermore, persons who drink heavily are at a markedly increased risk of suffering from adverse consequences.

The current data and past research have indicated that heavy consumption of alcohol is associated with adverse consequences, such as increased absenteeism, performance decrements, and criminal justice problems. Prevention strategies should enhance policies and procedures that further enhance the education and promotion of healthy lifestyles as well as attempt to identify ecological and personal factors that are associated with varying degrees of alcohol use.

1. Introduction and Background

This report consists of findings specific to the U.S. Marine Corps from data collected in the 1998 Department of Defense Survey of Health-related Behaviors Among Military Personnel. Research Triangle Institute (RTI) conducted seven of these surveys of the active-duty force in the period from 1980 to 1998. Thus a continuity of information on health-related behaviors among military personnel during that time period has been analyzed. The primary focus of this report is on the resultant effects of alcohol use by active-duty personnel.

This chapter presents the purpose and objectives of the study and outlines the organization of the report.

1.1 Purpose and Objectives

RTI presented the final report on the 1998 DoD Survey of Health-related Behaviors Among Military Personnel to the Assistant Secretary of Defense (Health Affairs) (Bray et al., 1999). That report does not contain service-level data or data on specific selected issues in detail but rather reports overall DoD information as well as overviews arrayed by military service. This report delivers Marine Corps-specific analyses of data presented in the general report as well as in-depth analyses of issues of specific interest to the Marine Corps.

The specific objectives of this report were to examine

- trends in alcohol use and alcohol-related problems
- drinking level stratification and alcohol-related problems
- drinking level stratification and other health-related behaviors
- perceived stress and quality of life

The determinants for the classification of drinking level are described in detail in Chapter 2 and Appendix A. In this report, drinking level refers to five categories of alcohol use: abstainer, infrequent/light drinker, moderate drinker, moderate/heavy drinker, and heavy drinker.

The research questions that were examined in each objective area are discussed in the following sections.

1.1.1 Trends in Alcohol Use and Alcohol-Related Problems

Several questions concerning trends in Marine data from 1980 to 1998 were addressed.

- What are the trends in the prevalence of alcohol use (both average daily ounces of ethanol and drinking levels), with special emphasis on heavy drinkers?
- What are the effects of changes in the demographic composition of the Marine Corps on trends in alcohol use?
- What are the trends in problems attributed to alcohol use?

The answers to such questions can illustrate changes in key behaviors of interest and can be used when decisions concerning changes in policies and programs need to be made.

1.1.2 Drinking Levels and Alcohol-Related Problems

Several questions concerning drinking levels and alcohol-related problems for active-duty Marines were addressed.

- What are the relationships between drinking levels and summary measures of alcohol-related serious consequences, productivity loss, and dependence symptoms?
- What are the relationships between drinking levels and individual indicators of alcohol-related problems?
- What are the relationships between drinking levels and other problems not specifically attributed to alcohol use, such as general life problems, criminal justice problems, fights, health problems, injuries, and job-related problems?
- What are the relationships between the demographic characteristics of personnel and alcohol-related problems?
- What are the odds of experiencing alcohol-related problems for various drinking levels after controlling for the effects of demographic characteristics?

In the past, alcohol use has been an integral part of the military culture in general and the Marine Corps culture in particular. The answers to these questions are important because the relationship between excessive drinking and serious negative outcomes is well documented.

1.1.3 Drinking Levels and Other Health-Related Behaviors

Two questions concerning the relationship of drinking levels with other health-related behaviors were addressed.

- What are the relationships among drinking levels and drinking and driving, nonuse of seat belts, high-risk sexual behavior, and other health-related behaviors?
- What is the association between various health-related behaviors and the odds of heavy drinking?

It is well known that excessive drinking can lead to drinking and driving and nonuse of seat belts, which can result in serious injury or death due to crashes. Additionally, excessive drinking associated with sexual activity can increase the risk of contracting sexually transmitted diseases. Thus, the above questions can provide an estimate of the toll excess alcohol use takes on the health and readiness of the Marine Corps.

1.1.4 Perceived Stress and Quality of Life

Several questions concerning perceived stress among Marine Corps personnel and quality of life were addressed.

- What levels of stress do Marines attribute to their work versus their family relationships?

- Which subgroups of Marines experience the highest levels of stress at work?
- Which subgroups of Marines experience the highest levels of stress in their family life?
- What are the specific sources of stress?
- How do men and women differ in their perceptions of stressor events?
- What methods do men and women use to cope with high levels of stress?
- To what extent and in which subgroups does stress interfere with the ability of personnel to perform their military jobs?

These questions examine the wide range of stressors that Marine Corps men and women are subject to as a part of their military duties, such as physical or mental challenges, demands due to shortage of personnel, combat-associated trauma, and conflicts between military and family responsibilities. In addition, these questions acknowledge that Marines are also likely to experience similar stressors to civilians, such as those associated with the conflict between family and work responsibilities and changing economic conditions.

1.2 Organization of the Report

The purpose of these analyses was to examine alcohol use, the negative effects of excessive alcohol use, and perceived stress and quality of life among Marine Corps personnel. The report is organized around these main themes.

Chapter 2 describes the techniques used in this analysis. In addition, it describes the target population, the data collection procedures, the survey response rate, the study population characteristics, and key definitions and measures.

Chapter 3 describes the trends in alcohol use and alcohol-related problems among Marine Corps personnel and the total DoD population identified by the seven surveys of health-related behaviors among military personnel conducted by RTI from 1980 through 1998.

Chapter 4 describes the findings concerning drinking levels and negative effects of excessive drinking as well as other problems not attributed to alcohol use. The demographic correlates to these problems and the odds of experiencing them are reported.

Chapter 5 describes the findings concerning alcohol use and other health-risk behaviors. The demographic correlates to these problems and the odds of experiencing them are reported.

Chapter 6 describes the findings concerning perceived stress and its relationship to quality of life.

Appendix A describes the methodologies employed in the calculation of alcohol measures used in this report.

Appendix B describes the techniques used in standardization and multivariate analyses.

Appendix C contains the survey instrument used by RTI in the 1998 Department of Defense Survey of Health-related Behaviors Among Military Personnel to collect the data used in this analysis and presented in this report.

2. Methodology

This chapter describes the techniques used during the analysis of the Marine Corps data from the 1998 Department of Defense Survey of Health-Related Behaviors Among Military Personnel performed by RTI. Included are discussions of the target population, survey response rates, study population demographics, key definitions and measures, and analytic techniques.

2.1 Data Sources, Performance Rates, and Respondent Characteristics

The data presented in this report are primarily from the Marine Corps respondent subset of the 1998 Department of Defense Survey of Health-related Behaviors Among Military Personnel.

As reported by RTI, the methodology for the Marine Corps portion of the survey consisted of selecting a random sample of Marine Corps personnel and asking them to complete anonymous questionnaires concerning health-related behaviors. Most surveys were completed in group sessions conducted by civilian data collection teams at Marine Corps bases. Eligible personnel who could not attend group sessions completed surveys by mail.

The reference population for the 1998 survey consisted of all active-duty DoD personnel. Recruits, service academy students, and persons absent without official leave (AWOL), were excluded from the study population because they had not been in the service long enough or because they were inaccessible. Personnel who had a permanent change of station (PCS) at the time of data collection were excluded from the study population due to difficulties in administering surveys to them during the study period. The remaining personnel comprised the target population.

Subjects from the target population were selected for inclusion in the study population in two stages. The first stage of sampling involved the selection of 12 Marine Corps installations from within the continental United States (CONUS) and 2 from outside the continental United States (OCONUS) to represent active-duty Marine Corps personnel. The second stage of sampling involved the selection of Marine Corps personnel from the identified 14 installations stratified by 12 cross-classifications of gender by pay grade. The data collected from survey respondents were weighted to represent the eligible active-duty Marine Corps personnel population (the target population).

To assess the quality of the survey methodology, RTI computed four different performance rates: Phase 1 eligibility rate, Phase 1 availability rate, Phase 1 completion rate, and the response rate among eligibles. Table 2.1 shows these rates as well as the corresponding response data that were used to compute them.

Table 2.1 Marine Corps Survey Response Data and Performance Rates

Item	Marine Corps
------	--------------

Response Data

1. Person selected for survey (total sample)	9,017
2. Phase 1 (group session)	6,933
3. Remote (mail-out)	2,084
4. Number of eligible persons identified	7,192
5. Phase 1 (group session) ^a	5,530
6. Remote (mail-out) ^b	1,662
7. Eligibles available during Phase 1	3,987
8. Total questionnaires from Phase 1	2,509
9. Usable questionnaires from Phase 1	2,494
10. Eligible persons for Phase 2 (follow-up to Phase 1) (Item 5 – Item 8)	3,021
11. Total questionnaires from Phase 2	494
12. Usable questionnaires from Phase 2	480
13. Total questionnaires from remotes	651
14. Usable questionnaires from remotes	648
15. Total questionnaires from all sources	3,654
16. Usable questionnaires from all sources	3,622

Performance Rates (%)

17. Phase 1 eligibility rate = (Item 5/Item 2)	79.8
18. Phase 1 availability rate = (Item 7/Item 5)	72.1
19. Phase 1 completion rate = (Item 8/Item 7)	62.9
20. Phase 1 response rate among eligibles = (Item 9/Item 5)	45.1
21. Phase 2 response rate among eligibles = (Item 12/Item 10)	15.9
22. Remote response rate among eligibles = (Item 14/Item 6)	39.0
23. Phase 1 & Phase 2 response rate among eligibles (Item 9 + Item 12 / Item 5)	53.8
24. Overall response rate among eligibles = (Item 16/Item 4)	50.4

Note: Response data are frequencies; performance rates are percentages.

^aExcludes 1,403 Marines from the sample who had a permanent change of station (PCS) or who were separated, unknown, AWOL, or deceased.

^bExcludes 422 Marines who were estimated to be PCS, separated, unknown, AWOL, or deceased at the same rate as those for Phase 1 data collection.

The anonymity of the study participants did not permit tracking of specific eligibility conditions.

Source: DoD Survey of Health-related Behaviors Among Military Personnel, 1998.

Reference: Bray, et. al., 1998 Department of Defense Survey of Health-related Behaviors Among Military Personnel, March 1999.

As defined by RTI, the Phase 1 eligibility rate is the percentage of individuals selected for the group sessions who were still eligible several weeks later during data collection. Some selected individuals were ineligible because they left the Marine Corps, were AWOL, deceased, PCS, or unknown. The eligibility rate for the Marine Corps was 79.8%.

The Phase 1 availability rate is the percentage of identified eligible personnel who were available to attend a Phase 1 group session. Some eligible personnel selected for the group sessions were not available to attend due to various reasons including temporary duty (TDY) assignments, deployment, leave, and illness. The Phase 1 availability rate was 72.1%.

The Phase 1 completion rate is the percentage of identified eligible personnel who attended a Phase 1 session and completed a questionnaire. The Phase 1 completion rate was 62.9%.

The response rates among eligibles are the rates at which usable questionnaires were obtained from eligible personnel for the individual and combined components of data collection. For these response rate calculations, RTI excluded ineligible individuals from the population (i.e., those who were separated, deceased, AWOL, PCS, or unknown). These rates for the individual data collection components (Phase 1, Phase 2, and remote) indicate that Phase 1 group sessions had the highest response rate (45.1%), followed by remote mail-out (39%) and by Phase 2 mail-out (15.9 %). The overall response rate among eligibles (50.4%) combines data from all three data collection activities.

Table 2.2 shows the sociodemographic distribution of the survey respondents compared with the eligible respondent population.

As can be seen, all subgroups had at least 195 respondents, and most groups had several hundred or more. Eligible personnel were more likely to be male (94.5%), to be Caucasian (62.8%), to have a high school diploma or less (52.8%), to be age 25 or younger (60%), to not be married (50.1%), and to be in pay grades E1 to E6 (79.9%).

Table 2.2 Sociodemographic Characteristics of 1998 Marine Corps Respondents and of Total Eligible Respondent Population

Sociodemographic Characteristic	Number of Respondents	Percentage of Eligible Respondent Population
Gender		
Male	3,051	94.5 (0.8)
Female	571	5.5 (0.8)
Race/Ethnicity		
Caucasian, non-Hispanic	2,318	62.8 (2.0)
African American, non-Hispanic	561	15.2 (1.2)
Hispanic	548	16.4 (1.9)
Other	195	5.6 (0.4)
Education		
High school or less	1,591	52.8 (3.0)
Some college	1,285	34.5 (1.9)
College degree or beyond	746	12.7 (2.0)
Age (y)		
20 or younger	556	20.0 (2.0)
21-25	1,212	40.0 (2.9)
26-34	929	23.7 (2.2)
35 or older	925	16.3 (1.9)
Family status^a		
Not married	1,619	50.1 (2.1)
Married	2,003	49.9 (2.1)
Married, spouse not present	215	5.9 (0.5)
Married, spouse present	1,788	44.0 (2.3)
Pay grade		
E1-E3	946	34.9 (3.8)
E4-E6	1,436	45.0 (2.5)
E7-E9	477	8.6 (0.9)
W1-W5	138	1.3 (0.1)
O1-O3	323	6.0 (1.3)
O4-O10	302	4.2 (1.1)
Total personnel	3,622	100.0 (NA)

Note: The number of respondents above is based on the number of respondents who completed a usable questionnaire. Table values in right column are percentages (with standard errors in parentheses).

^aEstimates of family status in 1998 are not strictly comparable to those from other survey years. In 1998, personnel who reported that they were living as married were classified in the "not married" group. In prior years, the marital status question did not distinguish between personnel who were married and those who were living as married.

NA = not applicable.

Source: DoD Survey of Health-related Behaviors Among Military Personnel, 1998.

Reference: Bray, et. al., 1998 Department of Defense Survey of Health-related Behaviors Among Military Personnel, March 1999.

2.2 Survey Questionnaire

The survey instrument used by RTI measured selected aspects of substance use as well as other health behaviors. (See Appendix C for the survey instrument.) More specifically, the questionnaire collected data on the following:

- quantity and frequency of alcohol use
- adverse effects contributed to alcohol use
- alcohol dependence symptoms
- general life problems
- use of tobacco products
- reasons for smoking cigarettes
- frequency of illicit drug use
- exercise, eating, and sleeping behaviors
- illnesses and medical care received
- use of seat belts and bicycle helmets
- perceived stress at work or in family life
- status of physical and mental health
- health risks associated with high blood pressure or high cholesterol
- access to and satisfaction with medical care
- knowledge and beliefs about transmission of human immunodeficiency virus (HIV)
- sexual practices and sexually transmitted diseases
- general sociodemographic characteristics and military experience

In addition, the questionnaire collected data on gender-specific health issues (testicular care for males and gynecological care, pregnancy, prenatal care, and alcohol and cigarette use during pregnancy for females). The final report on the 1998 Department of Defense Survey of Health-Related Behaviors Among Military Personnel presented to DoD by RTI (Bray et al., 1999) focuses on all of the above-listed measures. The emphasis of this report is on alcohol use, alcohol-related problems, other health-risk behaviors, and perceived stress and quality of life among Marine Corps personnel.

2.3 Key Definitions and Measures

2.3.1 Demographic Characteristics

RTI defined the demographic characteristics contained in this report as follows:

Gender – Gender was defined as male or female.

Race/Ethnicity – Following the current U.S. Bureau of the Census classification, personnel were divided into four racial/ethnic groups, which were mostly self-explanatory: Caucasian, non-Hispanic; African-American, non-Hispanic; Hispanic (including anyone of Hispanic origin – whether racially black or African-American, white or other); and other (including all other persons not classified elsewhere, such as Native Americans or Asians).

Age – Age was defined as the respondent's current age at the time of the survey.

Family Status – Family status was defined in terms of marital status and spouse presence at the member's duty station. Categories include "not married" (including personnel who were living as married, single, widowed, divorced, or separated), "married spouse not present" (including those who were legally married and whose spouse was not living at the member's present duty location), and "married, spouse present" (including those legally married and living in the same household). These categories represent a change from previous surveys where "married" personnel included those who were living as married. Thus, estimates relating to family status in 1998 are not strictly comparable to those presented in prior survey years.

Pay Grade Groups – Military pay grades for enlisted personnel were grouped as E1 to E3, E4 to E6, and E7 to E9. Pay grades for officers and warrant officers were grouped as O1 to O3, O4 to O10, and W1 to W5.

Region – Region refers to the location of the installation where personnel were stationed at the time of the survey and includes CONUS and OCONUS installations.

2.3.2 Alcohol Use, Alcohol-Related Problems, and Other Health Behavior Measures

The questionnaire measured alcohol use in terms of the quantity of alcohol consumed and the frequency of drinking. RTI calculated two summary measures of alcohol use, the average number of ounces of absolute alcohol (ethanol) consumed per day and drinking level. The ethanol index was computed following the methods used in the DoD surveys (see Bray et al., 1999) and the Rand study of alcohol use among Air Force personnel. The ethanol index is a function of (a) the amount of ethanol contained in the ounces of beer, wine, and liquor consumed on a typical drinking day during the past 30 days; (b) the frequency of use of each beverage; and (c) the amount of ethanol consumed on atypical ("heavy") drinking days during the past 12 months. The index represents average daily ounces of ethanol consumed during a 12-month period. Although the index is expressed in terms of 12-month use, most of the data come from reports of 30-day typical use. (See discussion in Appendix A for details about the procedures for creating this index.)

The drinking level classification scheme RTI used was adapted from Mulford and Miller (1960) and followed the method used in the previous DoD surveys (Bray et al., 1999). RTI computed drinking levels using the "quantity per typical drinking occasion" and the "frequency of drinking" for the type of beverage (beer, wine, or hard liquor) with the largest amount of absolute alcohol per day used to fit individuals into 1 of the 10 categories resulting from all combinations of quantity and frequency of consumption. RTI then collapsed the resulting quantity/frequency categories into five drinking-level groups: abstainers, infrequent/light drinkers, moderate drinkers, moderate/heavy drinkers, and heavy drinkers. The category of most concern, heavy drinkers, was defined as drinking 5 or more drinks per typical drinking occasion at least once a week in the 30 days prior to the survey. This criterion is consistent with the definition used in other national surveys of civilians, including the National Household Survey on Drug Abuse and Monitoring the Future. (See discussion in Appendix A for details about the procedures for creating the drinking level classification scheme.)

RTI computed three summary measures for problems associated with alcohol use in the past 12 months: serious consequences, productivity loss, and symptoms of dependence. Serious consequences refers to the occurrence of Uniform Code of Military Justice (UCMJ) punishment, loss of 1 week or more from duty because of a drinking-related illness, alcohol-related injury, spouse left, arrests for driving while impaired (DWI) or other incidents, incarceration, fights, not getting promoted, and/or needing detoxification on one or more occasion in the past 12 months. Alcohol-related productivity loss refers to being late for work or leaving early, not coming to work at all, being drunk at work, and/or performing below a normal level of productivity because of alcohol use or its aftereffects on one or more occasion in the past 12 months. Dependence symptoms refers to the occurrence of withdrawal symptoms (e.g., the "shakes"), inability to recall things that happened while drinking, inability to stop drinking before becoming drunk, and/or morning drinking on one or more occasion in the past 12 months. (The measure of these dependence symptoms was based on the Rand Air Force study definition by Polich & Orvis in 1979 that was used in the previous DoD surveys rather than the strict definition of dependence used in the *Diagnostic and Statistical Manual of Mental Disorders*, American Psychological Association, 1994.)

RTI also asked a series of questions about problems that individuals experienced in the past 12 months that were not directly attributed to alcohol. These included issues dealing with health, work, legal, and family-related problems. To examine the underlying dimensions of these items RTI conducted a principal components analysis with varimax rotation of resulting matrices. The results defined items related to four types of problem areas: an indicator of general life problems, criminal justice problems/fights, health problems/injuries, and job-related problems. These variables were categorized dichotomously as a 1 if an individual had one or more occurrences of any of the problems comprising the factor in the past 12 months. (See discussion in Appendix A for details about the procedures for creating these variables.)

RTI also gathered data about a variety of other health-risk behaviors and mental health issues. These included indicators of the use of seat belts, the use of bicycle helmets, the use of condoms by sexually active unmarried personnel, levels of stress at work and in family life, sources of stress, and behaviors for coping with stress.

2.4 Analytical Approach

The purpose of these analyses was to examine alcohol use, the negative effects of excessive alcohol use, and perceived stress and quality of life among Marine Corps personnel. Trends in alcohol use, current prevalence of alcohol use and related problems, other health behaviors and other problems, and perceived stress and quality of life were analyzed. Three basic techniques were used:

- descriptive univariate and bivariate analyses of the prevalence of alcohol use, problems due to alcohol use, problems not attributed to alcohol use, and other health-risk behaviors
- comparisons of trends in alcohol use from 1980 through 1998 (both direct and standardized to control for changes in demographic composition)
- multivariate logistic regression analyses

Most analyses were descriptive. Data from these analyses are presented in the report as percentages with standard errors.

Trend data were used to compare changes in alcohol use over time. The DoD surveys are cross-sectional not longitudinal (data for different years come from different individual populations due to the high turnover among military personnel), thus caution must be used when comparing these trends over time. Trend data are presented in two forms, unadjusted and adjusted. Unadjusted (direct) estimates are the observed rates, while the adjusted (standardized) estimates are the expected rates if the military population in each survey year had the same demographic distribution (the same age, educational status, and marital status).

Logistic regression analyses were used to model outcome measures (of experiencing alcohol-related negative effects as well as other problems) as a function of exposure measures (of demographic variables, drinking levels, and military occupation). In logistic regression, the natural log of the odds (i.e., $\ln p/1-p$) is modeled as a linear function of the independent variables. Thus, the parameters of a logistic regression model are transformed to reflect relative changes in the odds due to changes in the independent variables.

2.5 Suppression of Estimates

In past reports RTI omitted estimates that were considered to be unreliable by using a suppression of estimates rule developed in-house. While estimates of means and proportions that are either based on small sample sizes or have large sampling errors may not be reported with confidence, these estimates may still provide valuable information. Thus, this report has not omitted any data. It contains all estimates of means and proportions along with their standard errors. This allows all data to be evaluated and allows an assessment of certain associations and trends that would not have been possible if suppression of estimate rules had been applied.

Readers should use caution when evaluating estimates based on small sample sizes or having large sampling errors. In general, all sample sizes ≤ 30 individuals should be critically evaluated. Readers interested in applying the RTI suppression of estimate rules may refer to Bray et al., 1999 Department of Defense Survey of Health-related Behaviors Among Military Personnel, March 1999, Appendix C, section 4, pages C-5 and C-6.

3. Marine Corps Trends in Alcohol Use and Alcohol-Related Problems

This chapter examines the general trends in alcohol use and selected alcohol-related problems among Marine Corps personnel from 1980 through 1998. The data presented here came from the seven DoD Worldwide Surveys of Substance Use and Health-Related Behaviors Among Military Personnel (Bray et al., 1983, 1986, 1988, 1992, 1995, 1998). The tables in this chapter present specific Marine Corps estimates as well as the total DoD estimates for comparison purposes. The total DoD and specific Marine Corps estimates along with other Service-specific data were previously reported in the 1998 DoD Worldwide Survey final report (Bray et al., 1999).

Two estimates of alcohol use are analyzed: the average daily ounces of alcohol (ethanol) and heavy alcohol use in the past 30 days. For both measures unadjusted and adjusted estimates are reported. Unadjusted estimates represent the observed rates reported in the surveys and illustrate the overall pattern of alcohol use by Marine Corps personnel. Adjusted rates are constructed rates that have been modified to take into account changes in the sociodemographic composition of the Marine Corps over time. For example, Marines in 1998 were more likely to be older, to be officers, to be married, and to have more education than in previous survey years. Adjusted rates therefore reflect whether changes in the pattern of alcohol use by Marine Corps personnel may be due to shifts in the demographics of the Corps.

3.1 Average Daily Ounces of Alcohol

Table 3.1 displays the trends in the average daily ounces of ethanol consumed in the past 30 days for Marine Corps personnel versus total DoD personnel over the seven survey periods as both unadjusted and adjusted estimates. To examine whether the observed decrease in alcohol consumption may have partially reflected changes in the sociodemographic composition of the personnel over time, unadjusted estimates were compared with the adjusted estimates. The adjusted estimates were obtained by standardizing the demographic distributions of the populations from the 1982 through the 1998 surveys to the 1980 population distributions by age, education, and marital status. (It should be noted that the adjusted estimates are *constructed* estimates rather than observed estimates.)

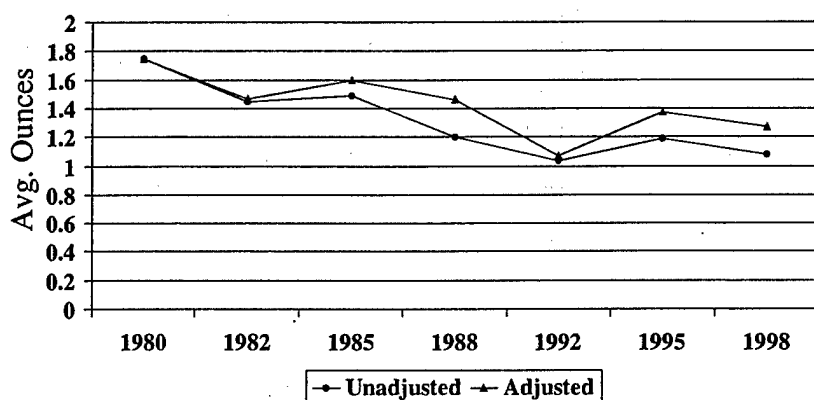
Table 3.1 shows that the unadjusted average daily ounces of ethanol consumed per day decreased substantially from 1.75 ounces per day in 1980 to 1.08 ounces per day in 1998 for Marine Corps personnel. This represents a significant 38.3% decrease over the 18-year period. After adjustment, the estimate for 1998 Marine Corps personnel increased from 1.08 to 1.27 average daily ounces of ethanol consumed. Readers should keep in mind that adjusted estimates are constructed estimates rather than observed estimates intended to take into account the changes in the sociodemographic composition of the Marine Corps over time.

Differences between both the unadjusted and adjusted estimates of average daily ounces of ethanol consumed per day in 1998 compared with 1980 were statistically significant. The general decreasing trend in consumption from 1980 to 1998 is present in both the unadjusted and adjusted estimates indicating that the overall decrease in average alcohol consumption among Marine Corps personnel was not primarily due to sociodemographic changes.

Total DoD estimates of average daily ounces of ethanol consumed per day are also presented in Table 3.1. The general decreasing trend in consumption from 1980 to 1998 noted among Marine Corps personnel is present and statistically significant in both the unadjusted and adjusted estimates for the Total DoD as well. The Total DoD estimates are consistently lower than Marine Corps estimates for each survey year in both the unadjusted and adjusted forms.

Figure 3.1 depicts the trends over time in both unadjusted and adjusted estimates of alcohol consumption for the Marine Corps.

Figure 3.1 Marine Corps Trends in Average Daily Ounces of Ethanol Consumed, Past 30 Days, Unadjusted and Adjusted for Sociodemographic Differences, 1980 through 1998.



Note: Adjusted estimates have been standardized to the 1980 Marine Corps distribution by age, education, and marital status.

Source: Worldwide Surveys of Health-Related Behaviors Among Military Personnel, 1980 through 1998.

Table 3.1 Marine Corps and Total DoD Trends in Average Daily Ounces of Ethanol Consumed, Past 30 Days, Unadjusted and Adjusted for Sociodemographic Differences, 1980-1998

Drinking Levels	Year of Survey						
	1980	1982	1985	1988	1992	1995	1998
Marine Corps							
Unadjusted	1.75 (0.09)	1.45 (0.09) ^a	1.49 (0.23)	1.20 (0.11)	1.04 (0.06)	1.19 (0.07)	1.08 (0.11) ^c
Adjusted ^b	1.75 (0.09)	1.47 (0.02) ^a	1.60 (0.21)	1.46 (0.20)	1.07 (0.06)	1.37 (0.07) ^a	1.27 (0.10) ^c
Total DoD							
Unadjusted	1.48 (0.07)	1.41 (0.05)	1.24 (0.06) ^a	0.92 (0.03) ^a	0.79 (0.04) ^a	0.87 (0.04)	0.79 (0.04) ^c
Adjusted ^b	1.48 (0.07)	1.38 (0.03)	1.34 (0.06)	1.05 (0.03) ^a	0.91 (0.04) ^a	0.99 (0.03)	0.96 (0.04) ^c

Note: Estimates are mean ounces of ethanol (with standard errors in parentheses). Adjusted estimates take into account sociodemographic changes within the Marine Corps or within the total DoD across the survey years. The algorithm for computing average daily ounces of ethanol consumed was altered for this table as follows: Estimates for average daily ounces of ethanol consumed for 1998 take into account both 32-ounce or liter and 40-ounce size containers. Estimates for 1985 to 1995 take into account 32-ounce or liter containers, but not 40-ounce containers. Therefore, estimates for average daily ounces of ethanol consumed differ slightly from previous DoD survey reports.

^aComparisons between this survey and the preceding survey are statistically significant at the 95% confidence level.

^bEstimates have been standardized to the 1980 DoD or service-specific distribution by age, education, and marital status.

^cComparisons between 1980 and 1998 are statistically significant at the 95% confidence level.

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1980 through 1998.

Reference: Bray et al., 1998 Department of Defense Survey of Health-related Behaviors Among Military Personnel, March 1999.

3.2 Alcohol Drinking Levels

Table 3.2 displays the trends in the proportion of personnel classified to each drinking level over time. The majority (80.3%) of Marine Corps personnel in 1998 used alcohol at some level in the past 30 days. This is consistent with all previous study years. While the proportion of personnel who abstained from alcohol or who were infrequent/light users continued to increase from 11.0% in 1980 to 37.5% in 1998, this was not accompanied by a decrease in heavy drinking. The proportion of heavy drinkers, 28.6 % in 1980 versus 22.4% in 1998, remained high. While the progress in reducing overall use of alcohol in the Marine Corps is encouraging, the lack of a reduction in heavy drinking is of concern since heavy drinkers experience more negative outcomes related to their drinking than individuals in other drinking categories.

The total DoD data presented in Table 3.2 are compared with the Marine Corps data. As in previous years, the majority (75.7%) of total DoD personnel in 1998 used alcohol at some level in the past 30 days. The proportion of personnel who abstained from alcohol or who were infrequent/light users increased from 25.6% in 1980 to 44% in 1998, while the proportion of heavy drinkers decreased from 20.8% in 1980 to 15% in 1998. In each survey period, the Marine Corps reported notably higher proportions of heavy drinkers than the total DoD population.

Table 3.3 displays the trends in unadjusted and adjusted rates of Marine Corps personnel classified as heavy drinkers over time. In general, the adjusted rates were slightly higher than the unadjusted rates for both the Marine Corps personnel and the Total DoD. This difference did not affect the significance of the difference between the 1980 data and the 1998 data for the Marine Corps. The difference did affect the significance of the difference in the Total DoD data, with the difference in the unadjusted rate being statistically significant while the adjusted rate was not significant. Adjusting the Marine Corps rates did affect the significance of the difference between the 1995 and 1998 data, with the difference in the unadjusted data not being significant while the decrease in the adjusted data was statistically significant.

While there was a decrease in the unadjusted percentage of Marine Corps personnel classified as heavy drinkers from 1995 (27.8%) to 1998 (23.0%) and from 1980 (28.6%) to 1998 (23.0%), the magnitude of the decreases was not significant. The lack of significant differences in the unadjusted trends in heavy alcohol use over time suggests that Marine Corps programs aimed at reducing heavy drinking have had little effect. In comparison, the decrease in the unadjusted percentage of Total DoD personnel classified as heavy drinkers from 1980 (20.8%) to 1998 (15.4%) was statistically significant. For both unadjusted and adjusted data, the percentages of personnel classified as heavy drinkers were notably higher among Marine Corps personnel compared with Total DoD personnel at each time point.

Table 3.2 Marine Corps and Total DoD Trends in Alcohol Drinking Levels, 1980-1998

Drinking Levels	Year of Survey						
	1980	1982	1985	1988	1992	1995	1998
Marine Corps							
Abstainer	10.4 (1.0)	13.5 (2.0)	10.8 (2.5)	18.0 (0.9)	15.1 (0.7)	16.9 (0.7)	19.7 (0.9)
Infrequent/light	11.0 (0.5)	13.2 (1.8)	13.6 (1.7)	15.9 (3.2)	15.2 (1.2)	14.2 (0.6)	17.8 (0.9)
Moderate	17.6 (1.2)	14.9 (0.3)	15.1 (2.1)	14.0 (1.1)	19.2 (1.4)	17.4 (1.1)	17.3 (1.2)
Moderate/heavy	32.3 (1.4)	27.8 (0.7)	31.1 (1.8)	28.2 (1.7)	25.0 (1.8)	23.6 (1.0)	22.7 (1.0)
Heavy	28.6 (2.5)	30.6 (0.9)	29.4 (3.7)	23.9 (3.9)	25.5 (1.2)	27.8 (2.4)	22.4 (2.0)
Total DoD							
Abstainer	13.5 (0.5)	11.8 (0.5)	13.4 (0.6)	17.2 (0.4)	20.4 (0.8)	21.1 (0.5)	24.3 (0.6)
Infrequent/light	12.1 (0.4)	17.6 (0.8)	16.6 (0.7)	17.5 (0.5)	18.8 (0.5)	18.6 (0.6)	19.7 (0.5)
Moderate	21.2 (0.7)	17.0 (0.5)	18.6 (0.6)	19.5 (0.5)	19.5 (0.5)	18.9 (0.5)	18.2 (0.5)
Moderate/heavy	32.4 (0.6)	29.6 (0.6)	28.5 (0.8)	28.8 (0.7)	26.1 (0.6)	24.2 (0.6)	22.8 (0.4)
Heavy	20.8 (1.1)	24.1 (1.0)	22.9 (1.1)	17.0 (0.9)	15.2 (0.7)	17.1 (0.8)	15.0 (0.8)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-Related Behaviors Among Military Personnel, 1980 to 1998.
Reference: Bray, et. al., 1998 Department of Defense Survey of Health-Related Behaviors Among Military Personnel, March 1999.

Table 3.3 Marine Corps and Total DoD Trends in Heavy Alcohol Use, Past 30 Days, Unadjusted and Adjusted for Sociodemographic Differences, 1980-1998

	Year of Survey					
	1980	1982	1985	1988	1992	1995
Marine Corps						
Unadjusted	28.6 (2.5)	30.6 (0.9)	29.4 (3.7)	24.4 (4.2)	26.0 (1.3)	28.6 (2.5)
Adjusted ^b	28.6 (2.5)	31.6 (2.4)	32.5 (3.2)	30.7 (4.2)	30.4 (1.3)	33.5 (1.9)
						23.0 (2.1)
						26.9 (1.8) ^a
Total DoD						
Unadjusted	20.8 (1.1)	24.1 (1.0) ^a	23.0 (1.1)	17.2 (0.9) ^a	15.5 (0.8)	17.4 (0.9)
Adjusted ^b	20.8 (1.1)	23.6 (0.9) ^a	24.8 (0.9)	20.1 (1.1) ^a	19.1 (1.2)	20.5 (0.8)
						15.4 (0.8) ^c
						19.3 (0.9)

Note: Estimates are mean ounces of ethanol (with standard errors in parentheses). Adjusted estimates take into account sociodemographic changes within the Marine Corps or within the total DoD across the survey years.

^aComparisons between this survey and the preceding survey are statistically significant at the 95% confidence level.

^bEstimates have been standardized to the 1980 DoD or service-specific distribution by age, education, and marital status.

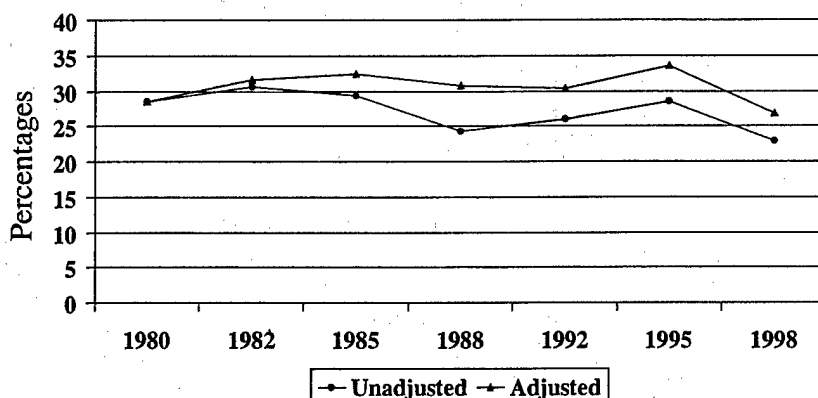
^cComparisons between 1980 and 1998 are statistically significant at the 95% confidence level.

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1980 to 1998.

Reference: Bray, et. al., 1998 Department of Defense Survey of Health-Related Behaviors Among Military Personnel, March 1999.

Figure 3.2 depicts the trends over time in both unadjusted and adjusted estimates of the percentage of Marine Corps personnel classified as heavy alcohol users.

Figure 3.2 Marine Corps Trends in Heavy Alcohol Use, Past 30 Days, Unadjusted and Adjusted for Sociodemographic Differences, 1980 through 1998.



Note: Adjusted estimates have been standardized to the 1980 Marine Corps distribution by age, education, and marital status.

Source: Worldwide Surveys of Health-Related Behaviors Among Military Personnel, 1980-1998.

3.3 Alcohol-Related Problems

Negative consequences on the work performance, health, and social relationships of military personnel associated with alcohol use are a concern for military commanders and policymakers. As seen in Table 3.4, both the Marine Corps and Total DoD experienced reductions in each type of alcohol-related problem from 1980 through 1998. The Marine Corps reported a higher percentage of personnel experiencing each type of alcohol-related problem at each time point compared with the Total DoD (with the exception of dependence symptoms in 1985). While the rates of alcohol-related problems have decreased over time the percentage of Marine Corps personnel reporting experiencing serious consequences (12.3%), productivity loss (19.2%), or dependence symptoms (8.2%) are still cause for concern.

Table 3.4 Marine Corps and Total DoD Alcohol-Related Problems, 1980-1998

Measure	Year of Survey					
	1980	1982	1985	1988	1992	1995 1998
Marine Corps						
Serious consequences	26.2 (2.2)	19.7 (1.0) ^a	12.3 (1.7) ^a	17.0 (3.4)	14.8 (2.1)	14.7 (1.6) 12.3 (1.3) ^b
Productivity loss	34.1 (1.6)	37.6 (1.2)	29.0 (5.0)	32.0 (3.8)	25.6 (1.9)	21.8 (1.9) 19.2 (1.3) ^b
Dependence symptoms	11.8 (1.2)	10.2 (1.8)	7.6 (1.4)	9.8 (1.7)	11.2 (1.7)	9.6 (1.1) 8.2 (1.2)
Total DoD						
Serious consequences	17.3 (1.1)	14.6 (0.6) ^a	10.7 (0.9) ^a	9.0 (0.6)	7.6 (1.1)	7.6 (0.5) 6.6 (0.4) ^b
Productivity loss	26.7 (1.2)	34.4 (0.7) ^a	27.1 (1.1) ^a	22.1 (1.2) ^a	16.4 (1.4) ^a	16.3 (0.8) 13.6 (0.6) ^{a,b}
Dependence symptoms	8.0 (0.6)	9.0 (0.5)	7.7 (0.7)	6.4 (0.5)	5.2 (0.4)	5.7 (0.4) 4.7 (0.3) ^b

Note: Entries are expressed as percentages (with standard errors in parentheses). Alcohol-related problems are reported for the past 12 months.

^aComparisons between this survey and the preceding survey are statistically significant at the 95% confidence level.

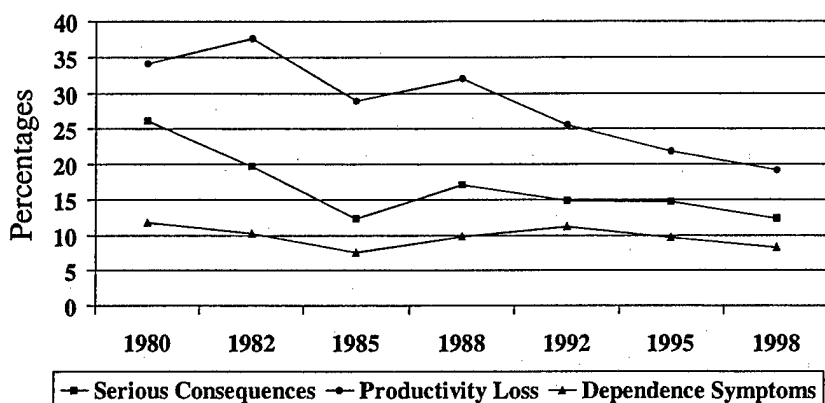
^bComparisons between 1980 and 1998 are statistically significant at the 95% confidence level.

Source: DoD Surveys of Health-Related Behavior Among Military Personnel, 1980 to 1998.

Reference: Bray, et. al., 1998 Department of Defense Survey of Health-Related Behaviors Among Military Personnel, March 1999.

Figure 3.3 depicts the trends over time in alcohol-related problems among Marine Corps personnel.

Figure 3.3 Marine Corps Trends in Alcohol-Related Problems, 1980-1998.



Source: Worldwide Surveys of Health Related Behaviors Among Military Personnel, 1980 through 1998.

3.4 Summary

Rates of alcohol use among Marine Corps personnel declined from 1980 through 1988 and the percentage of abstainers and infrequent/light users continued to increase. However, the percentage of heavy drinkers remained high for Marines compared with the total DoD population. Heavy drinking increases the risk for problem development and has a direct impact on operational readiness. This finding is a concern to health professionals and others interested in the prevention of alcohol-related problems.

4. Drinking Levels and Alcohol-Related Problems

Heavy drinking and its consequences continue to be a problem among Marine Corps personnel. Chapter 3 indicated that more than 1 in 5 Marine Corps personnel in 1998 were classified as heavy alcohol users. Additionally, the report from the 1998 Department of Defense Survey of Health-Related Behaviors Among Military Personnel (Bray et al., 1999) showed that the rate of heavy alcohol use was highest in the Marine Corps compared with the other services. Analysis of data for the military as a whole has shown that heavy alcohol users are more likely than other personnel to experience problems associated with their alcohol use (Bray et al., 1995).

This chapter presents detailed analysis of the relationships between drinking levels and drinking-related problems, as well as problems not necessarily attributed to alcohol use among the 1998 Marine Corps sample. Problems directly attributed to alcohol use included health problems, social problems, legal problems, productivity loss, and dependence symptoms due to alcohol use. Problems not necessarily attributed to alcohol use but for which there may be an association included general life problems, criminal justice problems/fights, health problems/injuries, and job-related problems. Demographic correlates of the above-mentioned problems are presented as are multivariate analyses predicting the likelihood of personnel experiencing these problems.

4.1 Problems Attributed to Alcohol Use

Information on serious consequences, productivity loss, and symptoms of alcohol dependence attributed to the use of alcohol by Marine Corps personnel is presented in Table 4.1. (Each of these problem categories will be defined and analyzed in detail in subsequent subsections.)

Highlights from Table 4.1 include the following:

- The prevalence of all three types of negative effects of alcohol use was greatest among heavy alcohol users.
- For serious consequences and measures of alcohol dependence, there was little difference in the rates among infrequent/light, moderate, and moderate/heavy drinkers.
- Alcohol-related productivity loss was the most common of the three alcohol-related problems.

Table 4.1 displays the strong relationship between heavy alcohol use and the 3 broad alcohol-related problem categories. The following subsections analyze in greater detail the specific types of problems within these categories in an attempt to understand how heavy alcohol use might be affecting the health and performance of Marine Corps personnel.

Table 4.1 Alcohol-Related Problems in Past 12 Months for Marine Corps, by Drinking Level

Drinking Level	Alcohol-Related Problem		
	Any Serious Consequences	Any Productivity Loss	Dependence
Infrequent/light	6.8 (1.5)	8.0 (0.9)	2.4 (0.6)
Moderate	7.7 (1.0)	12.5 (1.3)	1.2 (0.6)
Moderate/heavy	12.6 (1.8)	22.1 (2.0)	3.6 (0.9)
Heavy	30.0 (2.0)	45.9 (1.9)	30.0 (2.1)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

4.1.1 Serious Consequences

Table 4.2 shows the prevalence of specific types of alcohol-related serious consequences reported by Marine Corps personnel in 1998. The four most commonly occurring serious consequences associated with alcohol reported by Marine Corps personnel were fights, trouble with the police, trouble on the job, and difficulty handling problems.

Highlights from Table 4.2 include the following:

- 23.7% of heavy drinkers had been in physical fights while drinking at least once in the past 12 months. This is more than three times the frequency of the occurrence of fights among moderate/heavy drinkers (7.8%) and 10 times the frequency of the occurrence of fights among abstainers or infrequent/light or moderate drinkers (2.3%).
- 9.2% of heavy drinkers had trouble with police attributed to drinking in the past 12 months compared with 3.3% of moderate/heavy drinkers and 1.7% of abstainers or infrequent/light or moderate drinkers.
- 9.3% of heavy drinkers reported having had trouble on the job because of drinking in the past 12 months compared with 3.1% of moderate/heavy drinkers and 1.0% of abstainers or infrequent/light or moderate drinkers.
- Similarly, heavy drinkers were much more likely than moderate/heavy drinkers or abstainers or infrequent/light or moderate drinkers to report difficulty handling problems

because of drinking in the past 12 months and to have lower scores on performance ratings due to alcohol use in the past 12 months.

Table 4.2 Occurrence of Specific Serious Consequences in Past 12 Months, by, Drinking Level

Consequences	Abstainer, Infrequent/ Light, or Moderate	Moderate/ heavy	Heavy	Total
Did not get promoted because of drinking	1.0 (0.2)	1.2 (0.4)	3.4 (0.7)	1.6 (0.3)
Lower score on performance rating because of drinking	0.8 (0.3)	2.6 (0.6)	5.5 (0.8)	2.2 (0.3)
Kept from duty for a week or more due to drinking-related illness	0.2 (0.1)	0.2 (0.2)	0.5 (0.3)	0.3 (0.1)
UCMJ punishment because of drinking	1.6 (0.2)	2.0 (0.6)	4.5 (0.8)	2.3 (0.4)
DWI arrest	1.4 (0.3)	3.2 (0.7)	3.1 (0.7)	2.2 (0.4)
Other drinking-related arrest	0.4 (0.2)	0.7 (0.4)	2.3 (0.6)	0.9 (0.3)
Drinking-related incarceration	0.5 (0.2)	1.5 (0.5)	2.2 (0.4)	1.1 (0.2)
Drinking-related injury	1.0 (0.2)	0.8 (0.3)	3.6 (0.8)	1.5 (0.3)
Drinking caused injury to others or property damage	0.5 (0.2)	0.7 (0.4)	2.4 (0.5)	1.0 (0.2)
Fights while drinking	2.3 (0.4)	7.8 (1.8)	23.7 (1.8)	8.3 (1.0)
Spouse threatened to leave because of drinking	0.4 (0.2)	1.2 (0.4)	2.7 (0.5)	1.1 (0.2)
Had to be detoxified	0.5 (0.2)	1.2 (0.4)	1.8 (0.8)	0.9 (0.2)
Trouble on the job because of drinking	1.0 (0.2)	3.1 (0.7)	9.3 (1.0)	3.4 (0.4)
Trouble with police because of drinking	1.7 (0.3)	3.3 (0.7)	9.2 (1.2)	3.7 (0.6)
Difficulty handling problems because of drinking	0.7 (0.2)	2.7 (0.5)	8.4 (1.3)	2.9 (0.3)
Emergency medical help because of drinking	0.6 (0.3)	0.5 (0.2)	1.5 (0.4)	0.8 (0.3)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-Related Behaviors Among Military Personnel, 1998.

4.1.2 Productivity Loss

Table 4.3 presents information on specific types of productivity loss due to alcohol use reported by Marine Corps personnel by drinking levels. Personnel classified as heavy drinkers were more likely than other personnel to report the occurrence of specific types of alcohol-related productivity loss and much more likely to report multiple occurrences of such problems.

Highlights from Table 4.3 include the following:

- 37.7% of heavy drinkers reported working below normal performance levels at least one time in the past 12 months due to alcohol use compared with 18.2% of moderate/heavy drinkers and 5.7% of abstainers or infrequent/light or moderate drinkers. 16.1% of the heavy drinkers reported 4 or more occurrences of this problem in the past 12 months.
- 23.3% of heavy drinkers reported arriving late for work or leaving work early due to alcohol use at least once in the past 12 months compared with 9.0% of moderate/heavy drinkers and 2.7% of abstainers or infrequent/light or moderate drinkers. 6.4% of the heavy drinkers reported 4 or more occurrences of this problem in the past 12 months.
- 15.6% of heavy drinkers reported being called in to work while feeling drunk, and 14.3% reported being drunk at work at least once in the past 12 months. 5.3% reported being drunk at work 4 or more times in the past 12 months.

Table 4.3 Occurrence of Specific Types of Alcohol-related Productivity Loss in Past 12 Months, by Drinking Level

Consequences	Abstainer, Infrequent, Light, or Moderate	Moderate/ Heavy	Heavy	Total
Hurt in on-the-job accident because of drinking				
Any occurrence	0.2 (0.1)	0.4 (0.2)	0.9 (0.5)	0.4 (0.1)
Late for work or left work early because of drinking				
Any occurrence	2.7 (0.3)	9.0 (1.2)	23.3 (1.9)	8.7 (0.5)
1 time	1.7 (0.3)	5.2 (0.9)	7.4 (1.1)	3.8 (0.4)
2-3 times	0.7 (0.2)	3.0 (0.6)	9.5 (1.2)	3.2 (0.2)
4 or more times	0.3 (0.1)	0.8 (0.3)	6.4 (0.9)	1.8 (0.3)
Did not come to work because of drinking				
Any occurrence	0.7 (0.3)	1.1 (0.5)	3.8 (0.6)	1.5 (0.2)
1 time	0.7 (0.3)	0.3 (0.3)	1.8 (0.7)	0.9 (0.2)
2-3 times	0.0 (0.0)	0.6 (0.3)	1.2 (0.4)	0.4 (0.1)
4 or more times	0.0 (0.0)	0.2 (0.2)	0.8 (0.4)	0.2 (0.1)
Worked below normal performance level because of drinking				
Any occurrence	5.7 (0.5)	18.2 (1.7)	37.7 (2.1)	15.7 (1.1)
1 time	3.7 (0.4)	6.1 (1.0)	6.7 (1.1)	4.9 (0.5)
2-3 times	1.2 (0.2)	8.7 (1.3)	14.9 (1.3)	6.0 (0.5)
4 or more times	0.8 (0.2)	3.4 (0.8)	16.1 (1.6)	4.8 (0.7)
Drunk while working				
Any occurrence	1.3 (0.3)	4.3 (0.9)	14.3 (1.5)	4.9 (0.8)
1 time	0.5 (0.2)	3.2 (0.7)	3.8 (0.6)	1.9 (0.3)
2-3 times	0.5 (0.2)	0.6 (0.3)	5.3 (0.9)	1.6 (0.3)
4 or more times	0.3 (0.1)	0.5 (0.4)	5.3 (1.1)	1.5 (0.4)
Called in to work while feeling drunk				
Any occurrence	1.0 (0.3)	2.9 (0.8)	15.6 (2.1)	4.7 (0.9)
1 time	0.3 (0.1)	2.8 (0.9)	7.0 (0.9)	2.4 (0.4)
2-3 times	0.5 (0.1)	0.0 (0.0)	5.0 (1.1)	1.4 (0.3)
4 or more times	0.2 (0.1)	0.2 (0.2)	3.6 (0.9)	0.9 (0.2)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

4.1.3 Symptoms of Dependence

Table 4.4 presents information on specific symptoms of alcohol dependence. Heavy drinkers again reported these incidents more frequently than other personnel. However, specific symptoms of alcohol dependence were reported much more frequently than serious consequences of alcohol use or alcohol-related productivity loss by all personnel.

Highlights of Table 4.4 include the following:

- 62.6% of heavy drinkers reported any occurrence of blackouts (being unable to remember things that happened when they were drinking) compared with 28.9% of moderate/heavy drinkers and 12.2% of abstainers or infrequent/light or moderate drinkers. 12.8% of heavy drinkers reported experiencing blackouts at least weekly in the past 12 months.
- 41.6% of heavy drinkers reported any occurrence of impaired control (being unable to stop drinking before feeling drunk) compared with 16.2% of moderate/heavy drinkers and 5.8% of abstainers or infrequent/light or moderate drinkers. 15.5% of heavy drinkers reported experiencing impaired control at least weekly.
- More than 20% of heavy drinkers reported any occurrence of morning drinking (25.3%), hands shaking a lot after drinking (28.5%), or general "shakes" because of drinking (22.2%).

Table 4.4 Occurrence of Specific Symptoms of Alcohol Dependence in Past 12 Months, by Drinking Level

Symptoms	Drinking Level			Total
	Abstainer, Infrequent/ Light, or Moderate	Moderate/ Heavy	Heavy	
Hands shook a lot after drinking				
Any occurrence	2.1 (0.4)	9.6 (0.9)	28.5 (0.8)	9.7 (0.7)
Less than monthly	1.8 (0.3)	7.4 (1.0)	14.8 (1.5)	6.0 (0.3)
1-3 days a month	0.2 (0.2)	1.3 (0.3)	5.6 (1.0)	1.7 (0.3)
Weekly or more	0.1 (0.1)	0.9 (0.4)	8.0 (1.4)	2.1 (0.5)
Blackouts				
Any occurrence	12.2 (1.0)	28.9 (1.9)	62.6 (1.3)	27.3 (1.6)
Less than monthly	10.5 (1.0)	24.2 (1.5)	33.0 (1.9)	18.7 (1.0)
1-3 days a month	1.2 (0.3)	3.6 (0.6)	16.8 (1.4)	5.3 (0.7)
Weekly or more	0.5 (0.2)	1.1 (0.5)	12.8 (1.7)	3.4 (0.6)
Impaired control				
Any occurrence	5.8 (0.5)	16.2 (1.2)	41.6 (3.2)	16.2 (1.0)
Less than monthly	4.2 (0.4)	11.6 (1.3)	14.3 (1.4)	8.1 (0.3)
1-3 days a month	1.0 (0.2)	3.4 (0.6)	11.7 (1.3)	4.0 (0.4)
Weekly or more	0.6 (0.2)	1.3 (0.6)	15.5 (1.6)	4.1 (0.6)
Morning drinking				
Any occurrence	1.6 (0.3)	7.7 (0.7)	25.3 (1.7)	8.3 (0.7)
Less than monthly	1.3 (0.3)	6.8 (0.7)	12.7 (1.6)	5.1 (0.3)
1-3 days a month	0.3 (0.1)	0.9 (0.4)	7.2 (1.3)	2.0 (0.4)
Weekly or more	0.1 (0.1)	0.0 (0.0)	5.3 (0.9)	1.2 (0.3)
“Shakes” because of drinking				
Any occurrence	1.9 (0.4)	6.2 (0.8)	22.2 (0.9)	7.4 (0.8)
Less than monthly	1.7 (0.4)	4.7 (0.7)	11.6 (1.3)	4.6 (0.5)
1-3 days a month	0.1 (0.1)	0.9 (0.4)	4.5 (0.6)	1.3 (0.3)
Weekly or more	0.1 (0.1)	0.6 (0.4)	6.1 (1.2)	1.6 (0.4)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

The information presented in Tables 4.1 through 4.4 clearly shows that heavy drinkers experience much higher rates of alcohol-related problems than other Marine Corps personnel.

4.2 Problems Not Attributed to Alcohol Use

Information on general life problems, criminal justice problems/fights, health problems/injuries, and job-related problems not necessarily attributable to alcohol use is presented in Table 4.5. (Each of these problem areas will be defined and analyzed in detail in subsequent subsections.)

Highlights of Table 4.5 include the following:

- While general life problems (more than 60% of each drinking level), health problems/injuries (over 40% of each drinking level), and job-related problems (over 40% of each drinking level) were common among all personnel, heavy drinkers still reported higher rates than other personnel.
- 29.0% of heavy drinkers also reported experiencing criminal justice problems/fights in the past 12 months.

Table 4.5 Unattributed Problem Areas, by Drinking Level

Drinking Level	General Life Problems^a	Criminal Justice Problems/Fights^b	Health Problems/Injuries^c	Job-Related Problems^d
Abstainer	66.4 (3.3)	13.7 (1.5)	42.4 (2.6)	40.0 (2.1)
Infrequent/light	77.0 (2.3)	16.0 (2.2)	46.8 (2.8)	47.1 (3.3)
Moderate	73.8 (2.4)	19.0 (1.7)	43.9 (2.0)	44.3 (2.2)
Moderate/heavy	77.3 (1.8)	17.3 (1.0)	44.6 (1.9)	44.2 (2.5)
Heavy	83.4 (2.2)	29.0 (2.0)	47.5 (1.7)	55.8 (1.9)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

^a One or more of the following the past 12 months: heated arguments with family or friends, trouble on the job (unspecified), health problems, drove unsafely, neglected family responsibilities, serious money problems, difficulty handling problems, loud argument in public.

^b One or more of the following in the past 12 months: UCMJ punishment; arrest for a driving violation, arrest for a non-driving violation, time in jail, hit significant other, physical fights (nonfamily), trouble with the police (civilian or military).

^c One or more of the following in the past 12 months: hurt in accident, caused an accident resulting in another's injury or property damage, involved in a motor vehicle accident, health problems, needed emergency medical help.

^d One or more of the following in the past 12 months: kept from duty for a week or more due to illness, did not get promoted when expected, lower score on performance rating.

4.2.1 General Life Problems

Information on the specific problems comprising the general life problem variable in Table 4.5 is presented by drinking level in Table 4.6.

Highlights of Table 4.6 include the following:

- 52.6% of all Marine Corps personnel reported having heated arguments with family or friends, with 60.4% of heavy drinkers, 53.5% of moderate/heavy drinkers, 51.4% of infrequent/light or moderate drinkers, and 45.0% of abstainers reporting such incidents.
- A higher percentage of heavy drinkers compared with other drinking levels reported experiencing trouble on the job (43.2% compared with 27% to 29.6%) or having loud arguments in public (30.3% compared with 11.9% to 15.8%).
- There was little difference between drinking levels in the percentage of personnel reporting health problems or neglect of family responsibilities.

Table 4.6 Occurrence of Specific Problems Associated With General Life Problems, by Drinking Level

Problem	Drinking Level				Total
	Abstainer	Infrequent/ Light or Moderate	Moderate/ Heavy	Heavy	
Heated arguments with family or friends	45.0 (1.8)	51.4 (2.0)	53.5 (1.9)	60.4 (1.7)	52.6 (0.9)
Trouble on the job (unspecified)	29.4 (1.8)	29.6 (1.5)	27.0 (1.8)	43.2 (1.6)	32.0 (1.2)
Health problems	28.4 (2.3)	30.0 (1.5)	32.0 (1.6)	32.2 (1.1)	30.6 (0.6)
Drove unsafely	16.6 (1.2)	24.3 (1.1)	30.5 (1.4)	39.8 (2.3)	27.7 (1.1)
Neglected family responsibilities	9.2 (1.0)	8.5 (0.8)	9.1 (1.5)	12.8 (1.5)	9.7 (0.5)
Serious money problems	23.6 (1.5)	26.8 (1.4)	28.3 (2.3)	37.8 (1.4)	29.0 (1.3)
Difficulty handling problems	18.0 (1.2)	21.1 (1.4)	20.8 (1.4)	30.3 (2.1)	22.5 (0.9)
Loud arguments in public	11.9 (1.6)	14.3 (1.1)	15.8 (1.3)	30.3 (1.6)	17.8 (1.1)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

The data in Table 4.6 demonstrate that the specific problems comprising the measure of general life problems presented in Table 4.5 are associated with the use of alcohol to different degrees. While some problems appear highly associated with drinking level others appear less so. However, heavy drinkers consistently reported experiencing the highest percentage of each problem.

4.2.2 Criminal Justice Problems/Fights

Information on the specific criminal justice and fighting problems comprising the criminal justice problems/fights variable from Table 4.5 is presented by drinking level in Table 4.7.

Highlights of Table 4.7 include the following:

- 17% of Marine Corps personnel reported being involved in a least one physical fight with someone outside their family, with 34.8% of heavy drinkers reporting such incidents compared with 14.3% of moderate/heavy drinkers, 12.1% of infrequent/light or moderate drinkers, and 8.4% of abstainers.
- A higher percentage of heavy drinkers compared with other drinking levels reported receiving UCMJ punishment (13.2% compared with 6% to 7.1%) or having experienced trouble with either the military or civilian police (16.9% compared with 4.0% to 7.8%).
- While a similar percentage of heavy drinkers and moderate drinkers reported driving-related arrests as compared with infrequent/light or moderate drinkers and abstainers (5.0 and 5.1% compared with 2.9% and 2.1%), heavy drinkers reported a higher percentage of non-driving-related arrests compared with other drinking levels (5.0% compared with 1.5% to 2.3%) as well as having spent time in jail (4.8% compared with 1.6% to 2.4%).

Table 4.7 Occurrence of Specific Problems Associated With Criminal Justice Problems/Fights, by Drinking Level

Problem	Abstainer	Drinking Level			Total
		Infrequent/ Light or Moderate	Moderate/ Heavy	Heavy	
UCMJ punishment	6.0 (0.9)	7.1 (1.2)	6.0 (1.4)	13.2 (1.3)	8.0 (0.9)
Arrest, driving-related	2.1 (0.5)	2.9 (0.4)	5.1 (0.8)	5.0 (0.9)	3.7 (0.5)
Arrest, not driving-related	1.5 (0.4)	2.3 (0.5)	1.9 (0.4)	5.0 (0.7)	2.7 (0.4)
Time in jail	1.6 (0.5)	2.4 (0.5)	2.3 (0.7)	4.8 (0.7)	2.8 (0.3)
Hit significant other	2.6 (0.6)	2.0 (0.3)	2.0 (0.8)	3.9 (0.7)	2.5 (0.2)
Physical fights, nonfamily	8.4 (1.7)	12.1 (1.5)	14.3 (1.7)	34.8 (3.0)	17.0 (1.8)
Trouble with the police	4.0 (1.0)	7.8 (1.1)	7.0 (0.7)	16.9 (2.0)	8.9 (1.0)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

The data in Table 4.7 demonstrate that the specific problems comprising the measure of criminal justice problems/fights presented in Table 4.5 are associated with the use of alcohol. This association is consistent among heavy drinkers for each specific problem with some problems being strongly associated with heavy drinking. This explains the strong dose-response relationship observed between the general criminal justice problems/fights and drinking level displayed in Table 4.5.

4.2.3 Health Problems/Injuries

Information on the specific health problems/injuries comprising the health problems/injuries variable from Table 4.5 is presented by drinking level in Table 4.8.

Highlights of Table 4.8 include the following:

- A higher percentage of heavy drinkers reported having been hurt in an accident compared with the other drinking levels (20.4% compared with 13.4% to 16%).
- In general, there did not appear to be an association between the other problems and drinking level.
- Although not apparently associated with alcohol use, a large percentage (30.6%) of Marine Corps personnel reported experiencing health problems in the past 12 months.

Table 4.8 Occurrence of Specific Problems Associated With Health Problems/Injuries, by Drinking Level

Problem	Drinking Level				Total
	Abstainer	Infrequent/ Light or Moderate	Moderate/ Heavy	Heavy	
Hurt in an accident	13.4 (1.6)	14.6 (1.3)	16.0 (1.1)	20.4 (1.2)	16.0 (0.5)
Caused an accident	2.6 (0.7)	3.6 (0.6)	4.0 (0.6)	4.6 (0.6)	3.7 (0.4)
Involved in motor vehicle accident	10.9 (1.0)	12.1 (0.9)	11.1 (1.3)	11.6 (1.1)	11.5 (0.5)
Health problems	28.4 (2.3)	30.0 (1.5)	32.0 (1.6)	32.2 (1.1)	30.6 (0.6)
Needed emergency medical help	10.3 (1.0)	11.5 (1.0)	13.7 (1.2)	13.4 (1.2)	12.2 (0.4)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

The data in Table 4.8 indicate that in general alcohol use does not appear to be associated with self-reporting of health problems/injuries.

4.2.4 Job-Related Problems

Information on the specific job-related problems comprising the job-related problems variable from Table 4.5 is presented by drinking level in Table 4.9.

Highlights of Table 4.9 include the following:

- Heavy drinkers were more likely to report having received a lower than expected score on a performance rating in the past 12 months than other drinking levels (36.3% compared with 23.1% to 27%).

Table 4.9 Occurrence of Specific Problems Associated With Job-Related Problems, by Drinking Level

Problem	Abstainer	Drinking Level			Total
		Infrequent/ Light or Moderate	Moderate/ Heavy	Heavy	
Kept from duty for 1 week or more due to illness	12.7 (0.9)	11.6 (1.3)	12.6 (2.0)	14.4 (1.1)	12.7 (4.8)
Not promoted when expected	20.8 (1.5)	28.9 (1.9)	21.4 (2.2)	28.1 (2.7)	23.7 (1.6)
Lower score on performance rating	23.1 (2.9)	27.0 (1.7)	26.2 (1.9)	36.3 (1.3)	28.2 (1.5)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

The data in Table 4.9 indicate that in general alcohol use does not appear to be associated with self-reporting of job-related problems.

4.2.5 Productivity Loss Problems

The information presented in Table 4.10 concerning productivity loss is similar to that presented in Table 4.3, except that the problems in Table 4.10 did not necessarily have to be attributable to alcohol use.

Highlights of Table 4.10 include the following:

- A higher percentage of heavy drinkers reported any occurrence of working below normal performance level in the past 12 months compared with other drinking levels (41.7% compared with 26.7% to 32.6%) and 4 or more occurrences of working below normal performance level (22.8% compared with 14.0% to 15.8%).

Table 4.10 Occurrence of General Productivity Loss, by Drinking Level

Problem	Drinking Level				Total
	Abstainer	Infrequent/ Light or Moderate	Moderate/ Heavy	Heavy	
Late for work by 30 minutes or more					
Any occurrence	22.1 (1.9)	22.4 (1.3)	24.5 (1.4)	28.5 (1.9)	24.2 (1.0)
1 time	9.1 (1.2)	10.2 (0.9)	10.3 (1.0)	11.3 (1.0)	10.3 (0.5)
2-3 times	9.1 (1.2)	8.3 (0.7)	8.7 (1.1)	10.4 (1.3)	9.0 (0.7)
4 or more times	3.9 (0.8)	3.8 (0.5)	5.5 (0.9)	6.8 (0.7)	4.9 (0.3)
Left work early					
Any occurrence	34.6 (1.9)	33.7 (1.6)	35.0 (1.6)	34.5 (1.8)	34.4 (1.2)
1 time	7.3 (1.6)	8.3 (0.8)	7.1 (1.1)	6.6 (0.9)	7.4 (0.7)
2-3 times	13.7 (1.1)	10.2 (0.9)	14.0 (0.9)	9.4 (1.2)	11.6 (0.6)
4 or more times	13.6 (1.8)	15.2 (1.4)	14.0 (0.9)	18.6 (1.1)	15.3 (0.9)
Hurt in on-the-job accident					
Any occurrence	10.3 (1.9)	11.0 (1.1)	11.7 (1.5)	15.0 (1.4)	11.9 (1.0)
1 time	5.8 (1.1)	6.4 (0.8)	5.4 (0.7)	7.0 (1.0)	6.2 (0.5)
2-3 times	2.6 (0.5)	2.9 (0.5)	4.2 (0.8)	5.6 (0.8)	3.8 (0.4)
4 or more times	1.8 (0.6)	1.7 (0.4)	2.1 (0.5)	2.4 (0.5)	2.0 (0.3)
Worked below normal performance level					
Any occurrence	26.7 (2.3)	30.2 (1.7)	32.6 (1.6)	41.7 (2.3)	32.6 (1.1)
1 time	5.7 (0.8)	5.5 (1.0)	6.8 (0.8)	6.6 (0.7)	6.1 (0.5)
2-3 times	7.0 (1.2)	10.6 (0.7)	10.0 (1.2)	12.3 (1.2)	10.0 (0.6)
4 or more times	14.0 (1.7)	14.1 (1.1)	15.8 (1.4)	22.8 (1.6)	16.4 (0.8)
Did not come to work because of illness or injury					
Any occurrence	18.2 (1.7)	17.9 (1.3)	19.2 (2.2)	17.0 (1.6)	18.0 (1.1)
1 time	7.6 (0.9)	7.5 (0.8)	7.2 (1.1)	6.6 (0.9)	7.2 (0.5)
2-3 times	5.8 (0.7)	5.9 (0.8)	6.6 (1.4)	5.3 (0.8)	5.9 (0.6)
4 or more times	4.8 (0.8)	4.5 (0.6)	5.4 (0.7)	5.1 (1.0)	4.9 (0.4)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

The data in Table 4.10 indicate that in general alcohol use does not appear to be associated with self-reporting of general productivity loss not specifically attributed to drinking.

4.3 Demographic Correlates of Problems

The previous sections of this chapter presented relationships between drinking levels and specific problems in several general problem areas either directly attributable to alcohol use or not necessarily related to alcohol use. This section will present information about the demographic subgroups of Marine Corps personnel that were more or less likely to be associated with some of these problems.

4.3.1 Correlates of Problems Attributed to Alcohol Use

Information on the percentage of various demographic subgroups of Marine Corps personnel who reported experiencing alcohol-related problems is presented in Table 4.11.

Highlights of Table 4.11 include the following:

- A higher percentage of males than females reported experiencing each of the three specific alcohol-related problems.
- A lower percentage of Black, non-Hispanics reported experiencing any serious consequences than other racial groups (6.1% compared with 13.1% to 16.9%).
- A lower percentage of individuals with at least a college degree reported experiencing each of the three specific alcohol-related problems.
- A higher percentage of individuals in the 20 or younger and 21-25 age groups compared with the 26-34 and 35 or older age groups reported experiencing any serious consequences (16.5 and 18.2% compared with 5.6% and 2.6%), any productivity loss (21.0 and 27.1% compared with 12.7% and 7.3%), or symptoms of dependence (11.9 and 12.8% compared with 2.3% and 1.0%).
- For each of the three alcohol-related problems, the non-married subgroup had the highest percentage of individuals reporting experiencing the problem, while the married, spouse present subgroup had the lowest percentage.
- Within the enlisted ranks and the officer ranks the percentage of individuals who reported experiencing each of the three alcohol-related problems decreased as rank increased. This did not necessarily hold true between the enlisted and officer ranks, since junior officers tended to have higher percentages reporting problems than senior enlisted.
- There was little difference in the percentage of individuals reporting problems from CONUS- compared with OCONUS-based Marine Corps personnel.

Table 4.11 Alcohol-Related Problems, by Selected Demographic Characteristics

Characteristics	Alcohol-Related Problem		
	Any Serious Consequences	Any Productivity Loss	Dependence
Gender			
Male	12.7 (1.3)	19.6 (1.3)	8.5 (1.2)
Female	5.1 (1.4)	12.2 (1.3)	2.8 (0.9)
Race/Ethnicity			
White, non-Hispanic	13.1 (1.2)	21.4 (1.4)	9.4 (1.4)
Black, non-Hispanic	6.1 (1.3)	12.4 (1.6)	4.7 (0.8)
Hispanic	13.6 (1.5)	18.5 (1.7)	6.9 (1.2)
Other	16.9 (4.8)	16.1 (3.8)	8.7 (2.9)
Education			
High school or less	14.2 (1.7)	21.6 (1.3)	11.0 (1.6)
Some college	13.1 (0.8)	19.0 (1.5)	6.8 (0.6)
College graduate or higher	2.2 (0.5)	10.2 (1.4)	0.6 (0.4)
Age (years)			
20 or younger	16.5 (1.6)	21.0 (2.6)	11.9 (2.2)
21-25	18.2 (1.4)	27.1 (1.2)	12.8 (1.0)
26-34	5.6 (0.9)	12.7 (1.4)	2.3 (0.6)
35 or older	2.6 (0.7)	7.3 (0.9)	1.0 (0.3)
Family status			
Not married	18.5 (1.3)	26.0 (1.3)	13.0 (1.6)
Married, spouse not present	9.0 (3.9)	18.9 (3.2)	6.5 (2.4)
Married, spouse present	5.8 (0.9)	11.5 (1.0)	3.0 (0.5)
Pay grade			
E1-E3	20.9 (1.2)	25.3 (1.4)	14.4 (1.3)
E4-E6	10.2 (1.2)	19.3 (1.6)	6.7 (1.1)
E7-E9	2.8 (0.7)	7.5 (1.2)	1.2 (0.4)
W1-W5	1.6 (1.4)	4.2 (1.3)	0.5 (0.5)
O1-O3	1.9 (0.7)	13.4 (2.3)	1.4 (0.7)
O4-O10	0.7 (0.5)	5.1 (1.0)	0 (0.0)
Region			
CONUS	11.7 (1.4)	18.6 (1.2)	7.5 (1.4)
OCNUS	14.8 (2.5)	21.7 (3.8)	11.3 (2.1)
Total			

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

4.3.2 Correlates of Problems Not Attributed to Alcohol Use

Information on the percentage of various demographic subgroups of Marine Corps personnel who reported experiencing problems not necessarily related to alcohol is presented in Table 4.12.

Highlights of Table 4.12 include the following:

- A higher percentage of female Marine Corps personnel compared with males reported general life problems (85.2% compared with 75.3%), health problems/injuries (61.8% compared with 44.1%), and job-related problems (53.2% compared with 46.1%).
- While there was little difference in most of the life problem areas by race, a higher percentage of Black, non-Hispanics and Hispanics reported experiencing criminal justice problems/fights compared with White, non-Hispanics, and Others (25.0% and 21.8% compared with 17.4% and 16.9%).
- A lower percentage of personnel with at least a college degree reported experiencing each of the life problem areas.
- While personnel older than 25 years of age reported a lower percentage of general life problems, criminal justice problems/fights, and job-related problems than those 25 years of age or younger, this was not the case for health problems/injuries.
- The married, spouse present subgroup reported a lower percentage of criminal justice problems/fights compared with the other family status subgroups (13.2% compared with 24.2% and 23.2%).
- A higher percentage of enlisted personnel compared with officers reported experiencing general life problems (67.4% to 80.0% compared with 59.2% to 61.9%), criminal justice problems/fights (8.3% to 30.6% compared with 4.3% to 6.1%), health problems/injuries (44.8% to 49.5% compared with 28.3% to 39.1%), and job-related problems (29.0% to 58.4% compared with 17.3% to 25%).
- There was little difference in the percentage of individuals reporting problems from CONUS- compared with OCONUS-based Marine Corps personnel.

Table 4.12 Life Problem Areas, by Selected Demographic Characteristics

Characteristics	Problem Areas			
	General Life Problems ^a	Criminal Justice Problems/Fights ^b	Health Problems/Injuries ^c	Job-related Problems ^d
Gender				
Male	75.3 (1.1)	19.5 (1.3)	44.1 (0.8)	46.1 (1.9)
Female	85.2 (1.9)	16.0 (1.9)	61.8 (2.0)	53.2 (3.3)
Race/Ethnicity				
White, non-Hispanic	76.3 (1.2)	17.4 (1.3)	46.1 (1.2)	44.5 (1.6)
Black, non-Hispanic	76.9 (2.0)	25.0 (2.4)	45.3 (2.9)	48.7 (2.7)
Hispanic	74.8 (1.9)	21.8 (2.2)	40.4 (1.3)	51.0 (1.7)
Other	71.6 (3.1)	16.9 (2.8)	46.5 (4.0)	50.1 (6.0)
Education				
High school or less	77.9 (1.4)	23.8 (1.4)	45.8 (1.6)	52.1 (2.0)
Some college	78.0 (1.5)	17.2 (0.9)	48.2 (1.4)	45.9 (1.8)
College graduate or higher	61.5 (2.0)	6.0 (1.2)	33.6 (1.3)	24.7 (1.3)
Age				
20 or younger	76.9 (1.9)	28.6 (2.1)	44.9 (2.0)	53.2 (2.1)
21-25	82.0 (1.2)	23.5 (1.4)	47.7 (1.1)	55.6 (2.1)
26-34	71.8 (1.4)	11.8 (1.2)	42.1 (1.7)	33.6 (2.0)
35 or older	65.3 (1.9)	8.1 (0.9)	43.1 (1.7)	34.5 (1.9)
Family status				
Not married	77.7 (1.0)	24.2 (1.2)	46.7 (1.2)	51.1 (2.0)
Married, spouse not present	72.0 (3.8)	23.2 (4.7)	39.0 (3.7)	46.2 (6.5)
Married, spouse present	74.3 (1.6)	13.2 (1.1)	44.1 (1.2)	41.3 (1.4)
Pay Grade				
E1-E3	80.0 (1.7)	30.6 (1.6)	49.5 (1.6)	58.4 (2.0)
E4-E6	78.3 (1.3)	16.3 (1.4)	44.8 (0.7)	47.2 (1.9)
E7-E9	67.4 (2.5)	8.3 (1.4)	45.7 (2.4)	29.0 (3.0)
W1-W5	61.9 (5.6)	6.1 (1.3)	39.1 (4.8)	25.0 (3.8)
O1-O3	59.2 (3.0)	4.3 (1.2)	28.3 (2.1)	17.3 (1.6)
O4-O10	60.8 (4.4)	4.7 (1.9)	35.6 (3.1)	23.3 (2.0)
Region				
CONUS	75.7 (1.3)	19.5 (1.4)	45.7 (0.8)	45.3 (1.8)
OCONUS	76.3 (0.5)	18.5 (3.4)	42.6 (1.4)	51.5 (4.5)
Total	75.9 (1.0)	19.3 (1.3)	45.1 (0.8)	46.5 (1.8)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

^a One or more of the following the past 12 months: heated arguments with family or friends, trouble on the job (unspecified), health problems, drove unsafely, neglected family responsibilities, serious money problems, difficulty handling problems, loud argument in public.

^b One or more of the following in the past 12 months: UCMJ punishment, arrest for a driving violation, arrest for a non-driving violation, time in jail, hit significant other, physical fights (non-family), trouble with the police (civilian or military).

^c One or more of the following in the past 12 months: hurt in accident, caused an accident resulting in other's injury or property damage, involved in a motor vehicle accident, health problems, needed emergency medical help.

^d One or more of the following in the past 12 months: kept from duty for a week or more due to illness, did not get promoted when expected, lower score on performance rating.

Tables 4.11 and 4.12 show that the demographic correlates of problems attributed to alcohol use differ from those of life problems not necessarily attributed to alcohol use. While a higher percentage of males reported experiencing each of the alcohol-related problems, a higher percentage of females reported experiencing each of the life problems not necessarily associated with alcohol use except criminal justice problems/fights. While a lower percentage of Blacks, non-Hispanics reported experiencing any of the alcohol-related problems than each of the other racial/ethnic subgroups, this racial/ethnic subgroup had the highest percentage of personnel reporting experiencing criminal justice problems/fights. A lower percentage of personnel with at least a college education compared with other education subgroups reported experiencing all problems, alcohol-related or not. Similarly, a higher percentage of younger personnel reported experiencing both alcohol-related and not necessarily alcohol-related problems. While the married, spouse present subgroup reported a lower percentage of alcohol-related problems, there was little difference between the family status subgroups in respect to life problems not necessarily associated with alcohol use. While a higher percentage of junior officers compared with senior officers reported experiencing alcohol-related problems, the reverse was true of each of the specific life problem areas not necessarily associated with alcohol use. There did not appear to be differences between CONUS- and OCONUS-based personnel in the percentages reporting either alcohol-related problems or life problem areas not necessarily related to alcohol use.

4.4 Odds of Experiencing Problems

As the previous section showed, different demographic attributes of Marine Corps personnel appear to be associated with alcohol-related problems and life problems not necessarily associated with alcohol. However, demographic characteristics such as age, pay grade, and family status are often interrelated in Marine Corps personnel, and alcohol use patterns vary among demographic subgroups. To control for these interrelations multivariate logistic regression analyses were conducted to identify the independent effects of alcohol use and demographic characteristics on different indicators of alcohol-related problems and problems not necessarily attributed to alcohol use. Results of these analyses were expressed as odds ratios with the null value (value indicating no association) being 1.00, a value >1.00 indicating a positive association, and a value <1.00 indicating a negative (protective) association. 95% confidence intervals are reported to allow an assessment of the statistical significance of the reported measures of association (a confidence interval that contains the null value of 1.00 indicates a lack of significance). Since Tables 4.11 and 4.12 indicate a higher percentage of enlisted personnel reported experiencing problems (and to remain consistent with previous reports of Department of Defense Surveys of Health-related Behaviors Among Military Personnel) logistic regression analyses are presented for only enlisted Marine Corps personnel.

4.4.1 Odds of Experiencing Problems Attributed to Alcohol Use

The results of the logistic regression analysis of alcohol-related problems are shown in Table 4.13 as odds ratios with accompanying confidence intervals. Abstainers were excluded from the analysis of problems attributed to alcohol use.

Statistically significant highlights of Table 4.13 include the following:

- Marine Corps personnel with a high school education or less or some college were significantly more likely to report experiencing symptoms of alcohol dependence than personnel with at least a college degree. This was a very strong association.
- Marine Corps personnel in the 21- to 25-year-old age range were 3.59 times as likely to report experiencing symptoms of alcohol dependence than personnel who were ages 35 years or older.
- Single personnel were 1.54 times as likely to report experiencing serious consequences and 1.39 times as likely to report experiencing productivity loss due to alcohol use as married personnel whose spouse was living with them at their duty station at the time of the survey.
- Personnel in the E1-E3 pay grade group were 2.81 times as likely to report experiencing serious consequences as the result of alcohol use as personnel in the E7-E9 pay grade group.
- Personnel in the military job categories electronic repair were 1.45 times as likely, craftsman were 2.08 times as likely, and technical/non-health care were 0.65 times as likely as functional support personnel to report experiencing alcohol-related productivity loss.
- Drinking level was highly associated with each of the alcohol-related problems and appeared to exhibit a dose-response relationship. Moderate/heavy drinkers were 1.98 times as likely and heavy drinkers were 3.72 times as likely to report experiencing serious consequences as a result of alcohol use as infrequent/light drinkers. Moderate drinkers were 1.62 times as likely, moderate/heavy drinkers were 2.97 times as likely, and heavy drinkers were 7.76 times as likely to report experiencing alcohol-related productivity loss as infrequent/light drinkers. Heavy drinkers were 10.97 times as likely to report experiencing alcohol-related dependence symptoms as infrequent/light drinkers.

The information from the logistic regression analyses limited to enlisted personnel presented in Table 4.13 demonstrates that alcohol use was an independent risk factor for alcohol-related problems after controlling for the effects of other variables. There appeared to be a dose-response relationship, with heavier drinking levels being more likely to report problems than infrequent/light drinkers. This association was fairly consistent in each of the specific alcohol-related problems.

Additionally, the demographic variables education, age, family status, and pay grade were associated to some degree with specific alcohol-related problems after the contributions of alcohol use. All other variables in the model were taken into account and therefore may be useful for targeting efforts to reduce heavy drinking and alcohol-related problems among Marine Corps personnel.

Table 4.13 Adjusted Odds Ratios of Alcohol-Related Problems for Enlisted Personnel

Characteristics	Alcohol-Related Problem		
	Serious Consequences	Productivity Loss	Dependence
Gender			
Male	1.70 (0.83, 3.49)	0.96 (0.71, 1.28)	1.38 (0.60, 3.16)
Female	1.00 (--)	1.00 (--)	1.00 (--)
Race/Ethnicity			
White, non-Hispanic	1.00 (--)	1.00 (--)	1.00 (--)
Black, non-Hispanic	0.67 (0.41, 1.09)	0.90 (0.65, 1.24)	1.05 (0.52, 2.12)
Hispanic	1.05 (0.71, 1.55)	0.91 (0.78, 1.06)	0.76 (0.52, 1.11)
Other	1.22 (0.71, 2.09)	0.69 (0.39, 1.22)	0.89 (0.42, 1.90)
Education			
High school or less	1.30 (0.48, 3.57)	1.09 (0.46, 2.60)	56.23 (35.41, 89.30)
Some college	1.70 (0.57, 5.07)	1.18 (0.52, 2.68)	44.65 (25.90, 76.96)
College graduate or higher	1.00 (--)	1.00 (--)	1.00 (--)
Age (years)			
20 or younger	1.60 (0.51, 4.97)	1.18 (0.56, 2.47)	3.06 (0.74, 12.62)
21-25	1.99 (0.67, 5.93)	1.55 (0.82, 2.92)	3.59 (1.00, 12.83)
26-34	1.24 (0.43, 3.60)	1.10 (0.65, 1.86)	1.74 (0.49, 6.14)
35 or older	1.00 (--)	1.00 (--)	1.00 (--)
Family status			
Not married	1.54 (1.09, 2.18)	1.39 (1.12, 1.73)	1.32 (0.90, 1.94)
Married, spouse not present	0.81 (0.29, 2.27)	1.16 (0.68, 1.98)	1.05 (0.35, 3.12)
Married, spouse present	1.00 (--)	1.00 (--)	1.00 (--)
Pay grade			
E1-E3	2.81 (1.12, 7.07)	1.68 (0.82, 3.45)	1.56 (0.52, 4.71)
E4-E6	1.52 (0.71, 3.26)	1.48 (0.77, 2.86)	0.96 (0.34, 2.74)
E7-E9	1.00 (--)	1.00 (--)	1.00 (--)
Region			
CONUS	0.97 (0.74, 1.27)	1.14 (0.83, 1.55)	0.97 (0.73, 1.29)
OCONUS	1.00 (--)	1.00 (--)	1.00 (--)
Occupation			
Direct combat	1.16 (0.69, 1.96)	0.92 (0.71, 1.18)	1.01 (0.52, 1.96)
Electronic equipment repair	0.90 (0.50, 1.62)	1.45 (1.01, 2.11)	1.15 (0.35, 3.72)
Communications/intelligence	0.91 (0.49, 1.72)	1.08 (0.69, 1.68)	1.05 (0.53, 2.08)
Technical/non-health care	0.92 (0.61, 1.39)	0.65 (0.44, 0.96)	0.52 (0.15, 1.76)
Functional support	1.00 (--)	1.00 (--)	1.00 (--)
Electrical/mechanical repair	0.83 (0.50, 1.37)	1.09 (0.85, 1.39)	0.94 (0.55, 1.61)
Craftsman	1.92 (0.99, 3.73)	2.08 (1.02, 4.24)	1.85 (0.70, 4.87)
Service and supply	1.02 (0.57, 1.83)	1.21 (0.84, 1.76)	0.80 (0.41, 1.54)
Non-occupational	1.13 (0.50, 2.56)	0.99 (0.52, 1.87)	0.46 (0.10, 2.00)
Drinking level			
Infrequent/light	1.00 (--)	1.00 (--)	1.00 (--)
Moderate	1.18 (0.63, 2.22)	1.62 (1.06, 2.48)	0.48 (0.18, 1.28)
Moderate/heavy	1.98 (1.22, 3.23)	2.97 (2.00, 4.42)	1.27 (0.65, 2.49)
Heavy	3.72 (2.10, 6.60)	7.76 (5.33, 11.29)	10.97 (6.49, 18.54)

Note: Table entries are odds ratios adjusted for effects of gender, race/ethnicity, education, age, family status, pay grade, region, occupation, and drinking level. Reference groups have an odds ratio of 1.00. Abstainers were excluded from these analyses.

Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

4.4.2 Odds of Experiencing Problems Not Attributed to Alcohol Use

The results of the logistic regression analysis of problems not necessarily associated with alcohol use are shown in Table 4.14 as odds ratios with accompanying confidence intervals. Abstainers were included in the analysis and were used as the reference group for the drinking level variable.

Statistically significant highlights of Table 4.14 include the following:

- Males were 0.44 times as likely to report experiencing general life problems as females, 0.50 times as likely to report health problems/injuries, and 0.64 times as likely to report job-related problems.
- Black, non-Hispanics were 2.07 times as likely to report criminal justice problems/fights as White, non-Hispanics while Hispanics were 0.75 times as likely to report health problems/injuries as White, non-Hispanics.
- Personnel in the 21-25 age range were 1.83 times as likely to report experiencing general life problems as those ages 35 years or older. Personnel in the 20 or younger and 26-34 age ranges were 0.55 and 0.45 times as likely to report job-related problems as those ages 35 years or older.
- Single individuals were 0.72 times as likely to report experiencing general life problems as married personnel whose spouse was present at their duty station at the time of the survey.
- Personnel in the E1-E3 pay grade group were 3.87 times as likely and those in the E4-E6 group were 1.97 times as likely to report criminal justice problems/fights as personnel in the E7-E9 pay grade group. Personnel in the E1-E3 pay grade group were 4.75 times as likely and those in the E4-E6 group were 3.15 times as likely to report job-related problems as personnel in the E7-E9 pay grade group.
- Personnel stationed in the continental United States were 1.16 times as likely to report health-related problems/injuries as those outside the continental United States.
- Personnel in the military job category electronic repair were 1.74 times as likely as those in the functional support category to report experiencing general life problems. Personnel in the communications/intelligence category were 1.15 times as likely, those in the technical/non-health care category were 1.33 times as likely, and those in the electrical/mechanical repair category were 1.26 times as likely to report health problems/injuries as personnel in the functional support category. It should be noted, however, that the associations between occupation category and health problems/injuries require careful consideration since their confidence intervals were very close to containing 1.00, which would have signified a lack of significance.

- While alcohol use was associated with problems not necessarily attributed to alcohol use, a dose-response relationship did not appear to be present. Infrequent/light drinkers were 2.07 times as likely, moderate drinkers were 1.70 times as likely, moderate/heavy drinkers were 2.08 times as likely, and heavy drinkers were 2.66 times as likely to report experiencing general life problems as abstainers. Moderate drinkers were 1.76 times as likely, moderate/heavy drinkers were 1.55 times as likely, and heavy drinkers were 2.40 times as likely to report criminal justice problems/fights as abstainers. Moderate drinkers were 1.25 times as likely, moderate/heavy drinkers were 1.25 times as likely, and heavy drinkers were 1.59 times as likely to report job-related problems as abstainers.

The information from the logistic regression analyses limited to enlisted personnel presented in Table 4.14 demonstrates that after controlling for the effects of other variables, alcohol use was an independent risk factor for problems not necessarily related to alcohol use (except health problems/injuries). Lower pay grade was associated with criminal justice problems/fights and job-related problems, even after controlling for the effects of age, education, and family status. Male gender appeared to be a protective factor for general life problems, health problems/injuries, and job-related problems.

4.5 Summary

Alcohol use and abuse have consistently been associated with a range of problem behaviors and negative consequences. Previous research has brought attention to the extent of heavy alcohol consumption and the prevalence of alcohol-related problems. In fact, previous research has indicated that despite often significant decreases in alcohol consumption and alcohol-related problems among DoD personnel, Marine Corps personnel continue to evidence significantly more problems due to heavy alcohol use. The present data indicate that among Marine Corps personnel, heavy drinkers were consistently and substantially more likely than other drinkers to experience alcohol-related consequences. For example, of the heavy drinkers, approximately one third experienced alcohol-related serious consequences (30.0 %), nearly half (45.9%) experienced some form of alcohol-related productivity loss, and approximately one third (30%) had symptoms of dependence. In addition, heavy drinkers had substantially higher rates of problems compromising the individual alcohol-related problems summary measures.

Marine Corps patterns of heavy alcohol consumption and negative consequences were associated with being male, between the ages of 20-25, and having a high school education or less. These findings indicate that heavy alcohol use is still problematic for the Marine Corps and more effort should be targeted at alcohol prevention programs. Alcohol use and its related consequences have an adverse effect on military performance and readiness. Furthermore, these data have implications for policies and procedures used by decision-makers in their attempt to prevent and control the impact of alcohol abuse.

Table 4.14 Adjusted Odds Ratios of Unattributed Problems for Enlisted Personnel

Characteristics	Problem Area			
	General Life Problems ^a	Criminal Justice Problems/Fights ^b	Health Problems/Injuries ^c	Job-Related Problems ^d
Gender				
Male	0.44 (0.30, 0.65)	1.08 (0.81, 1.43)	0.50 (0.37, 0.67)	0.64 (0.52, 0.80)
Female	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Race/Ethnicity				
White, non-Hispanic	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Black, non-Hispanic	1.18 (0.95, 1.47)	2.07 (1.49, 2.88)	0.98 (0.79, 1.22)	1.23 (0.91, 1.65)
Hispanic	0.79 (0.63, 1.00)	1.05 (0.79, 1.40)	0.75 (0.65, 0.85)	1.10 (0.96, 1.26)
Other	0.82 (0.59, 1.15)	0.93 (0.70, 1.23)	0.95 (0.64, 1.40)	1.12 (0.69, 1.84)
Education				
High school or less	1.06 (0.63, 1.80)	1.56 (0.83, 2.95)	1.11 (0.64, 1.90)	1.30 (0.90, 1.86)
Some college	1.17 (0.70, 1.97)	1.30 (0.68, 2.50)	1.17 (0.76, 1.80)	1.19 (0.83, 1.69)
College graduate or higher	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Age (years)				
20 or younger	1.37 (0.75, 2.52)	1.22 (0.65, 2.28)	0.67 (0.36, 1.23)	0.55 (0.38, 0.80)
21-25	1.83 (1.04, 3.19)	1.16 (0.70, 1.90)	0.88 (0.52, 1.48)	0.76 (0.52, 1.10)
26-34	1.14 (0.65, 1.98)	0.91 (0.55, 1.51)	0.87 (0.55, 1.39)	0.45 (0.32, 0.62)
35 or older	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Family status				
Not married	0.72 (0.56, 0.93)	1.07 (0.87, 1.31)	0.95 (0.77, 1.17)	0.88 (0.76, 1.01)
Married, spouse not present	0.69 (0.38, 1.27)	1.43 (0.90, 2.27)	0.70 (0.46, 1.08)	0.93 (0.52, 1.66)
Married, spouse present	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Pay grade				
E1-E3	1.39 (0.75, 2.55)	3.87 (2.13, 7.02)	1.51 (0.97, 2.35)	4.75 (3.17, 7.12)
E4-E6	1.22 (0.70, 2.11)	1.97 (1.13, 3.46)	1.04 (0.70, 1.56)	3.15 (2.34, 4.24)
E7-E9	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Region				
CONUS	1.08 (0.78, 1.48)	1.43 (0.94, 2.18)	1.16 (1.01, 1.33)	0.83 (0.60, 1.16)
OCNUS	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Occupation				
Direct combat	0.99 (0.76, 1.27)	1.11 (0.78, 1.56)	1.04 (0.82, 1.33)	1.17 (0.97, 1.42)
Electronic equipment repair	1.74 (1.37, 2.21)	0.71 (0.42, 1.21)	1.30 (0.93, 1.83)	1.15 (0.86, 1.52)
Communications/intelligence	1.02 (0.73, 1.43)	0.94 (0.67, 1.33)	1.15 (1.01, 1.29)	1.07 (0.88, 1.29)
Technical/non-health care	0.85 (0.56, 1.29)	0.94 (0.54, 1.65)	1.33 (1.00, 1.77)	1.21 (0.95, 1.55)
Functional support	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Electrical/mechanical repair	0.97 (0.74, 1.26)	0.91 (0.67, 1.25)	1.26 (1.00, 1.59)	1.09 (0.84, 1.40)
Craftsman	1.10 (0.49, 2.49)	1.33 (0.87, 2.05)	0.92 (0.64, 1.31)	1.00 (0.67, 1.49)
Service and supply	1.15 (0.81, 1.65)	1.25 (0.88, 1.76)	0.84 (0.70, 1.01)	1.45 (0.91, 2.33)
Non-occupational	0.98 (0.57, 1.68)	0.81 (0.41, 1.60)	0.90 (0.58, 1.41)	1.04 (0.63, 1.73)
Drinking level				
Abstainer	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Infrequent/light	2.07 (1.32, 3.24)	1.42 (0.89, 2.26)	1.38 (0.93, 2.64)	1.33 (0.98, 1.97)
Moderate	1.70 (1.07, 2.68)	1.76 (1.26, 2.45)	1.18 (0.92, 1.51)	1.25 (1.08, 1.44)
Moderate/heavy	2.08 (1.28, 3.38)	1.55 (1.16, 2.06)	1.22 (0.90, 1.65)	1.25 (1.00, 1.57)
Heavy	2.66 (1.97, 3.59)	2.40 (1.73, 3.34)	1.26 (0.97, 1.64)	1.59 (1.27, 2.00)

Note: Table entries are odds ratios adjusted for effects of gender, race/ethnicity, education, age, family status, pay grade, region, occupation, and drinking level. Reference groups have an odds ratio of 1.00. Abstainers were excluded from these analyses. Source: DoD Surveys of Health-related Behaviors Among Military Personnel, 1998.

^a One or more of the following the past 12 months: heated arguments with family or friends, trouble on the job (unspecified), health problems, drove unsafely, neglected family responsibilities, serious money problems, difficulty handling problems, loud argument in public.

^b One or more of the following in the past 12 months: UCMJ punishment, arrest for a driving violation, arrest for a non-driving violation, time in jail, hit significant other, physical fights (non-family), trouble with the police (civilian or military).

^c One or more of the following in the past 12 months: hurt in an accident, caused an accident resulting in other's injury or property damage, involved in a motor vehicle accident, health problems, needed emergency medical help.

^d One or more of the following in the past 12 months: kept from duty for a week or more due to illness, did not get promoted when expected, lower score on performance rating.

5. Drinking Levels and Other Health-Risk Behaviors

Alcohol use can impair an individual's judgment and can lead to an increase in risky behavior. Specifically, Marine Corps personnel who drink heavily may be more likely to drive under the influence of alcohol, to not wear seat belts, or to have unsafe sex. This chapter will examine the relationship among drinking levels and these health-risk behaviors as well as the association between selected demographic and risk variables and the odds of heavy drinking in an effort to identify subgroups of Marine Corps personnel who are more likely to engage in high-risk behaviors.

5.1 Drinking and Driving

Information on the frequency of drinking and driving by Marine Corps personnel is presented in Table 5.1.

Highlights of Table 5.1 include the following:

- 16.3% of Marine Corps personnel categorized as heavy drinkers reported drinking and driving at least once a week.
- 37.1% of Marine Corps personnel categorized as heavy drinkers and 25.9% categorized as moderate/heavy drinkers reported drinking and driving at least once a month.
- 50.2% of Marine Corps personnel reported operating a motor vehicle within 2 hours of drinking any alcoholic beverage on at least one occasion in the past 12 months.
- Drinking and driving appeared to be associated with increased alcohol use, with 41.1% of infrequent/light or moderate drinkers, 68.3% of the moderate/heavy drinkers, and 70.2% of the heavy drinkers reporting drinking and driving at least once in the past 12 months.

Table 5.1 Frequency of Drinking and Driving, by Drinking Level

Frequency ^a	Drinking Level			Total ^b
	Infrequent/ Light or Moderate	Moderate/ Heavy	Heavy	
5 to 7 days per week	0.3 (0.2)	0.5 (0.3)	1.9 (0.6)	0.7 (0.2)
1 to 4 days per week	0.8 (0.2)	5.3 (0.7)	14.4 (0.8)	5.1 (0.3)
1 to 3 days per month	6.2 (0.7)	20.1 (1.9)	20.8 (1.7)	12.3 (0.9)
At least once in the past 12 months	33.9 (2.4)	42.3 (2.0)	33.0 (1.5)	32.1 (0.9)
Never	58.9 (2.6)	31.7 (1.4)	29.8 (1.2)	49.8 (1.5)

Note: Entries are expressed as percentages (with standard errors in parentheses). "Drinking and driving" was defined as operating a motor vehicle within 2 hours of drinking any alcoholic beverages.

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

^a Of all people who drive a motor vehicle.

^b Total excludes abstainers.

Table 5.1 displayed the strong relationship between increasing levels of alcohol use and drinking and driving. In addition to the increased frequency at which heavy drinkers reported drinking and driving, heavy drinkers, by definition, consume more alcohol and therefore may often be driving after consuming large amounts of alcohol. This, combined with the high percentage of Marine Corps personnel reporting drinking and driving, suggests the need to address this issue by targeting personnel for interventions aimed at reducing the frequency of drinking and driving.

5.2 Drinking and the Use of Seat Belts

Information on the frequency of the use of seat belts by Marine Corps personnel is presented in Table 5.2.

Highlights of Table 5.2 include the following:

- Only 87.3% of Marine Corps personnel reported always or nearly always using seat belts.
- Not using seat belts appeared to be associated with increasing alcohol use, with 6.4% of abstainers, 7.9% of infrequent/light or moderate drinkers, 13.5% of moderate/heavy, and 19.2% of heavy drinkers reporting using seat belts only sometimes or less.

Table 5.2 Frequency of Seat Belt Use, by Drinking Level

Frequency ^a	Drinking Level				Total
	Abstainer	Infrequent/ Light or Moderate	Moderate/ Heavy	Heavy	
Always or nearly always	92.0 (1.2)	91.0 (1.0)	85.4 (1.1)	79.2 (1.3)	87.3 (0.7)
Sometimes	3.1 (0.7)	5.3 (0.8)	9.3 (1.0)	11.7 (1.2)	7.2 (0.5)
Seldom	1.7 (0.5)	1.9 (0.6)	3.5 (0.8)	4.9 (1.3)	2.9 (0.4)
Never	1.6 (0.4)	0.7 (0.3)	0.7 (0.4)	2.6 (0.6)	1.3 (0.3)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

^a Of people who drive or ride in a car.

Table 5.2 displayed the strong relationship between increasing levels of alcohol use and failure to use seat belts. Taken together, Tables 5.1 and 5.2 indicate that heavy drinkers are not only

more likely to drink and drive but that they are also more likely to compound their risk by not using seat belts when they drive.

5.3 Drinking and Sexual Behavior

Information on the frequency of unsafe sexual behavior by Marine Corps personnel is presented in Table 5.3.

Highlights of Table 5.3 include the following:

- Only 25.2% of Marine Corps personnel reported using a condom at their last sexual encounter.
- A higher percentage of personnel categorized as heavy drinkers (32.1%) reported using a condom at their last sexual encounter than personnel in the other drinking levels (13.3% to 24.9%).
- An increased number of sexual partners appeared to be associated with increased alcohol use, with 5.8% of abstainers, 7.7% of infrequent/light or moderate drinkers, 11.1% of moderate/heavy drinkers, and 23.3% of heavy drinkers reporting at least 5 sexual partners in the past 12 months.

Table 5.3 Degree of Risk for Sexually Transmitted Disease Among Sexually Active Personnel, by Drinking Level

Sexual Behavior ^a	Drinking Level				Total
	Abstainer	Infrequent/ Light or Moderate	Moderate/ Heavy	Heavy	
Used a condom at last sexual encounter					
Yes	21.1 (1.7)	13.3 (1.4)	24.9 (1.4)	32.1 (1.4)	25.2 (0.6)
No	69.8 (1.8)	71.5 (1.5)	72.3 (1.3)	62.8 (2.1)	69.4 (1.0)
Number of sexual encounters in past 12 months					
20 or more people	0.9 (0.4)	0.8 (0.3)	0.8 (0.2)	3.2 (0.4)	1.3 (0.1)
10-19 people	0.7 (0.5)	1.0 (0.3)	2.0 (0.6)	5.8 (0.7)	2.2 (0.3)
5-9 people	4.2 (0.9)	5.9 (0.7)	8.3 (1.0)	14.3 (2.0)	8.0 (0.8)
2-4 people	15.7 (1.5)	19.8 (1.3)	24.8 (1.2)	33.4 (1.8)	23.2 (0.8)
1 person	63.9 (1.9)	62.8 (1.2)	58.8 (2.1)	35.6 (2.6)	56.0 (1.6)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

^a Of people who had sex in the past 12 months.

Table 5.3 displays the relationship between alcohol use and risky sexual behavior. Overall reported condom use by Marine Corps personnel is low (25.2%) and the reported frequency of sexual encounters is high (44% reporting more than 1 partner in the past 12 months). While a higher percentage of heavy drinkers reported condom use at their last sexual encounter, this must be weighed against the much higher percentage of heavy drinkers reporting multiple sexual encounters. As increased alcohol use impairs judgment, heavy drinkers with a high number of sexual partners are at increased risk for sexually transmitted diseases. In addition, the higher percentages of abstainers, infrequent/light or moderate drinkers, or moderate drinkers compared with heavy drinkers reporting 1 sexual partner in the past 12 months are more likely to include monogamous married individuals who do not use condoms. These individuals would contribute to the percentage of individuals reporting lack of condom use at last sexual encounter although they would actually be at a much lower risk for sexually transmitted diseases.

5.4 Health-Risk Behaviors and the Odds of Heavy Alcohol Use

Information on the association between health-risk behaviors and the odds of heavy alcohol use is presented in Table 5.4. As seen in previous sections, there may be correlations between various risk behaviors or between specific demographic variables and risk behaviors. To control for these interrelations, multivariate logistic regression analyses were conducted to identify the independent effects of risk behaviors and demographic characteristics on alcohol use. Results of these analyses were expressed as odds ratios with the null value (value indicating no association) being 1.00, a value >1.00 indicating a positive association, and a value <1.00 indicating a negative (protective) association. 95% confidence intervals are reported to allow an assessment of the statistical significance of the reported measures of association (a confidence interval that contains the null value of 1.00 indicates a lack of significance).

Statistically significant highlights of Table 5.4 include the following:

- Male Marine Corps personnel were 3.41 times as likely to be categorized as heavy drinkers as female personnel.
- Blacks were 0.32 times as likely and Hispanics were 0.61 times as likely to be categorized as heavy drinkers as Whites.
- Single personnel were 1.87 times as likely to be categorized as heavy drinkers as married personnel whose spouses were present at their present duty station at the time of the survey.
- Personnel in lower pay grades were more likely to be categorized as heavy drinkers than personnel in higher pay grades. Personnel in the E1-E3 pay grade group were 10.92 times as likely, those in the E4-E6 group were 7.59 times as likely, those in the E7-E9 group were 3.57 times as likely, and those in the O1-O3 group were 3.91 times as likely to be categorized as heavy drinkers as those in the O4-O10 group.
- Drinking and driving was strongly associated with heavy drinking. Personnel who reported drinking and driving 5 to 7 days per week were 5.53 times as likely, those who

reported drinking and driving 1 to 4 days per week were 9.63 times as likely, those who reported drinking and driving 1 to 3 days per month were 3.67 times as likely, and those who reported drinking and driving at least once in the past 12 months were 1.61 times as likely to be categorized as heavy drinkers as those who reported never drinking and driving.

- The number of sexual encounters in the past 12 months reported by Marine Corps personnel was highly associated with heavy drinking. Individuals who reported having 20 or more encounters were 4.37 times as likely, those who reported having 10-19 encounters were 4.13 times as likely, those who reported having 5-9 encounters were 1.74 times as likely, and those who reported having 2-4 encounters were 1.44 times as likely to be categorized as heavy drinkers than those who reported having only 1 sexual partner in the past 12 months.

Table 5.4 shows that there were several strong and significant predictors of heavy drinking. Several demographic variables were associated with heavy drinking. Males were more likely to drink heavily than females, Whites were more likely to drink heavily than other racial groups, single personnel were more likely to drink heavily than married personnel whose spouses were present at their present duty station, and lower pay grades were more likely to drink heavily than senior officers. Two of the four risky health behaviors were also associated with heavy drinking. Personnel who reported drinking and driving were more likely to drink heavily than those who did not, and personnel who reported multiple sexual encounters in the past 12 months were more likely to drink heavily than those who reported having only 1 sexual partner. These associations were significant after controlling for all other variables in the model that demonstrates independent associations. These data suggest the need for interventions targeted at heavy drinkers to address the association between risky sexual behaviors and alcohol use.

5.5 Summary

The data indicated a clear association between drinking levels and risky behavior. Considerable literature has indicated that important differences can exist between the lifestyles of individuals in relation to drinking levels. These differences can express themselves through a range of behavioral indicators including health-risk behaviors, such as driving under the influence, not wearing seat belts, and/or having unsafe sex. Therefore, the reduction of excessive alcohol consumption should be an important target of the Marine Corps. Risky health behavioral practices are likely to affect operational readiness of Marine Corps personnel.

Table 5.4 Adjusted Odds Ratios of Heavy Alcohol Use, With an Emphasis on Other Health-Risk Behaviors

	Heavy Drinking	95% Confidence Interval
Gender		
Male	3.41	(1.81, 6.41)
Female	1.00	(--)
Race/Ethnicity		
White	1.00	(--)
Black	0.32	(0.18, 0.55)
Hispanic	0.61	(0.46, 0.81)
Other	0.49	(0.24, 1.01)
Education		
High school or less	1.73	(0.69, 4.35)
Some college	1.17	(0.49, 2.80)
College graduate or higher	1.00	(--)
Family status		
Not married	1.87	(1.41, 2.47)
Married, spouse not present	1.25	(0.75, 2.10)
Married, spouse present	1.00	(--)
Pay grade		
E1-E3	10.92	(3.88, 30.70)
E4-E6	7.59	(2.12, 27.09)
E7-E9	3.57	(1.15, 11.07)
W1-W5	1.51	(0.34, 6.75)
O1-O3	3.91	(1.72, 8.91)
O4-O10	1.00	(--)
Region		
CONUS	0.73	(0.47, 1.11)
OCONUS	1.00	(--)
Seat belt use		
Seldom or never	1.03	(0.50, 2.12)
Sometimes	0.91	(0.61, 1.34)
Always or nearly always	1.00	(--)
Operated a motor vehicle within 2 hours of drinking an alcoholic beverage		
5 to 7 days per week	5.53	(1.88, 16.27)
1 to 4 days per week	9.63	(6.17, 15.04)
1 to 3 days per month	3.67	(2.72, 4.93)
At least once in the past 12 months	1.61	(1.13, 2.27)
Never	1.00	(--)
Used a condom at last sexual encounter		
No	0.99	(0.73, 1.34)
Yes	1.00	(--)
Number of sexual encounters in the past 12 months		
20 or more people	4.37	(1.92, 9.92)
10-19 people	4.13	(1.93, 8.83)
5-9 people	1.74	(1.10, 2.77)
2-4 people	1.44	(1.09, 1.91)
1 person	1.00	(--)

Note: Table entries are odds ratios adjusted for the effects of gender, race/ethnicity, education, family status, pay grade, region, and indicators of seat belt use, drinking and driving, and high-risk sexual behaviors. Abstainers were excluded from these analyses.

Source: DoD Survey of Health-related Behaviors Among Military Personnel, 1998.

6. Perceived Stress and Quality of Life

Marine Corps personnel are likely to experience the same types of stress as civilians from similar sources, including family and work responsibilities. Additionally, specific challenges associated with being in the military may be sources of stress. This chapter examines the impact of perceived stress from the family or work environment on Marine Corps personnel. Specifically, this chapter will present information on the appraisal of stress, the demographic correlates of stress, particular sources of stress, ways of coping with stress, and interference of stress with military job performance.

6.1 Appraisal of Stress

Information on the level of stress experienced at work and in family life or personal life by Marine Corps personnel is presented in Table 6.1.

Highlights of Table 6.1 include the following:

- A great deal or a fairly large amount of stress at work was reported by 39.1% of Marine Corps personnel. This was reported by a slightly higher percentage of female personnel (43.8%) than male personnel (38.9%).
- A smaller percentage of Marine Corps personnel (23.3%) reported experiencing a great deal or a fairly large amount of stress in family life or personnel relationships. Again, a higher percentage of female personnel (31.8%) reported experiencing this stress than male personnel (22.8%).

Table 6.1 Levels of Perceived Stress at Work and in Family Life, Past 12 Months, by Gender

Type of Stress/ Level	Gender		
	Men	Women	Total
Stress at work			
Great deal	16.2 (0.9)	18.3 (1.9)	16.3 (0.8)
Fairly large amount	22.7 (0.9)	25.5 (2.6)	22.8 (0.8)
Some	30.7 (0.9)	30.3 (2.0)	30.7 (0.9)
A little	18.7 (1.0)	17.1 (1.8)	18.6 (0.9)
None	10.8 (0.7)	8.1 (1.3)	10.6 (0.6)
Stress in family			
Great deal	10.2 (0.3)	16.3 (2.2)	10.5 (0.3)
Fairly large amount	12.6 (0.7)	15.5 (2.3)	12.8 (0.6)
Some	27.6 (0.5)	25.4 (2.3)	27.5 (0.6)
A little	27.1 (0.9)	27.5 (1.8)	27.1 (0.8)
None	21.4 (1.0)	14.8 (3.2)	21.0 (1.0)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

6.2 Demographic Correlates of Stress

Information on the percentage of various demographic subgroups of male and female Marine Corps personnel who reported experiencing a great deal or a fairly large amount of stress either at work or in their family life or personal relationships is presented in Table 6.2.

Highlights of Table 6.2 include the following:

- In each subgroup of each sociodemographic variable (except the E4-E6 and O1-O3 pay grade groups), a higher percentage of female Marine Corps personnel reported experiencing a great deal or a fairly large amount of stress either at work or in their family life or personal relationships than male personnel.
- The White, non-Hispanic (51.5%) race/ethnicity category had the highest percentage of personnel who reported experiencing a great deal or a fairly large amount of stress while the Black, non-Hispanic (40.9%) category had the lowest percentage of personnel reporting stress. This was true for both male and female personnel.
- Among both genders, a lower percentage of personnel with a college degree or higher reported experiencing stress than personnel in the other education categories.
- Among both genders, a lower percentage of personnel in the 35 or older age category reported experiencing stress than personnel in the other age categories. Among males, the category with the highest percentage of personnel reporting experiencing stress was the 21 to 25-year-old age group (54.1% compared with 38.3% to 51.7%) while among females it was the 20 or younger age group (65.7% compared with 47.3% to 56.0%).
- A higher percentage of single personnel reported experiencing stress than married personnel.
- The percentage of personnel in the E1-E3 pay grade group (55.3%) reporting experiencing stress was higher than the percentage reporting experiencing stress in any other category (35.5% to 46.8%). For males, the pay grade groups with the highest percentages of personnel reporting stress were E4-E6 (64.4%), followed by E1-E3 (54.7%), while for females it was E1-E3 (65.3%), followed by O4-O10 (60.1%).
- Duty station (CONUS vs. OCONUS) did not appear to be associated with the percentage of personnel reporting experiencing stress.

Table 6.2 High Perceived Stress at Work or in Family Life, by Selected Sociodemographic Characteristics

Characteristic	Gender		Total
	Men	Women	
Race/Ethnicity			
White, non-Hispanic	50.9 (1.4)	63.7 (3.5)	51.5 (1.3)
Black, non-Hispanic	40.4 (2.9)	46.8 (6.2)	40.9 (2.8)
Hispanic	44.5 (1.8)	48.5 (6.1)	44.8 (1.7)
Other	47.8 (3.5)	50.7 (7.6)	48.0 (3.3)
Education			
High school or less	48.6 (1.1)	56.0 (4.4)	49.0 (0.9)
Some college	48.9 (1.8)	58.1 (3.1)	49.6 (1.7)
College graduate or higher	44.0 (1.6)	51.1 (4.8)	44.4 (1.5)
Age (years)			
20 or younger	51.7 (1.9)	65.7 (7.4)	52.6 (1.8)
21-25	54.1 (1.4)	56.0 (3.8)	54.2 (1.4)
26-34	42.0 (2.4)	52.5 (4.7)	42.6 (2.3)
35 or older	38.3 (2.0)	47.3 (5.0)	38.7 (2.0)
Marital status			
Not married	51.4 (1.2)	61.7 (3.5)	52.1 (1.1)
Married	45.0 (1.9)	48.4 (3.8)	45.1 (1.8)
Pay grade			
E1-E3	54.7 (1.3)	65.3 (5.8)	55.3 (1.2)
E4-E6	64.4 (1.7)	53.4 (3.9)	46.8 (1.5)
E7-E9	37.4 (2.5)	44.5 (6.5)	37.7 (2.5)
W1-W5	34.3 (6.6)	50.5 (14.6)	35.5 (6.5)
O1-O3	44.8 (2.5)	39.0 (13.6)	44.5 (2.3)
O4-O10	43.8 (3.2)	60.1 (11.0)	44.5 (3.0)
Region			
CONUS	48.3 (1.3)	56.7 (2.4)	48.8 (1.1)
OCNUS	47.6 (1.1)	53.6 (1.6)	47.8 (0.6)
Total	48.1 (1.1)	56.3 (2.8)	48.6 (0.9)

Note: Entries are expressed as percentages of personnel who reported "a great deal" or a "fairly large amount" of stress at work or in the family in the past 12 months. (Standard errors are in parentheses.)

Source: DoD Survey of Health-related Behaviors Among Military Personnel, 1998.

6.3 Occupational Correlates of Stress

Information on the levels of perceived stress experienced at work by Marine Corps personnel is presented in Table 6.3 by self-reported military occupation.

Highlights of Table 6.3 include the following:

- Overall, the percentages of personnel reporting experiencing a great deal or a fairly large amount of stress at work were similar between enlisted personnel (low of 27.7% in craftsman, high of 46.9% in technical non-health care, median 39.2%) and officers (low of 24.4% in intelligence, high of 46.9% in general/executive, and median 32.8%).
- The percentages of personnel reporting experiencing some/a little stress at work were also similar between enlisted personnel (46.3% to 63.3%) and officers (41.9% to 68.2%).

Table 6.3 Levels of Perceived Stress at Work in the Past 12 Months, by Occupation

Group/Occupation	Stress Level		
	Great Deal/ Fairly Large Amount	Some/A Little	None
Enlisted			
Direct combat	40.6 (1.7)	48.3 (0.9)	10.2 (1.4)
Electronic equipment repair	43.4 (5.1)	48.8 (4.4)	7.2 (1.9)
Communications/intelligence	33.5 (3.6)	56.6 (3.1)	8.9 (1.5)
Technical/non-health care	46.9 (3.1)	43.0 (3.3)	9.5 (2.1)
Functional support	37.6 (1.9)	49.6 (2.7)	12.3 (1.6)
Electrical/mechanical repair	39.4 (2.9)	46.3 (3.3)	13.3 (1.3)
Craftsman	27.7 (3.4)	63.3 (4.5)	9.0 (4.3)
Service and supply	37.7 (3.6)	50.3 (3.3)	11.3 (1.0)
Non-occupational	39.6 (4.2)	50.5 (4.3)	9.0 (3.2)
Total enlisted	39.0 (1.1)	49.6 (1.0)	10.6 (0.7)
Officer			
General/executive	46.9 (9.3)	41.9 (10.9)	11.1 (4.5)
Tactical operations	41.4 (3.6)	52.3 (3.0)	6.3 (1.4)
Intelligence	24.4 (9.3)	72.0 (7.8)	3.6 (3.3)
Engineering/maintenance	38.3 (4.9)	52.6 (4.4)	9.1 (3.2)
Scientist/non-health care	30.9 (7.8)	55.5 (11.5)	13.6 (7.0)
Administration	30.6 (5.0)	59.4 (5.4)	10.0 (3.6)
Supply/procurement	32.8 (4.4)	55.3 (7.2)	11.7 (4.9)
Non-occupational	28.4 (4.9)	68.2 (6.3)	3.5 (2.0)
Total officer	36.8 (1.8)	55.0 (1.5)	8.1 (1.5)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

Table 6.3 demonstrates that perceptions of stress at work are similar among enlisted personnel and officers. Overall, approximately 25% to 50% of all Marine Corps personnel reported experiencing a great deal/fairly large amount of stress at work in the past 12 months.

6.4 Sources of Stress

Information on the specific sources of stress experienced by male and female Marine Corps personnel is presented in Table 6.4.

Highlights of Table 6.4 include the following:

- The specific sources of stress that the highest percentage of Marine Corps personnel reported experiencing were being away from family (19.2%), financial problems (15.3%), and increases in work load (15.2%).
- The specific source of stress that the highest percentage of male Marine Corps personnel reported experiencing was being away from family (19.3%).
- The specific source of stress that the highest percentage of female Marine Corps personnel reported experiencing was changes in the family (23.8%).
- While the percentages of male and female personnel who reported experiencing different sources of stress were comparable overall, there were some exceptions. A higher percentage of male personnel (12.8%) reported deployment as a specific source of stress compared with female personnel (4.1%). A higher percentage of female personnel compared with male personnel reported work relationships (17.4% compared with 11.8%), changes in family (23.8% compared with 13.5%), and personal health problems (12.7% compared with 3.9%) as specific sources of stress.

Table 6.4 Specific Sources of Stress, Past 12 Months, by Gender

Stressor	Gender		Total
	Men	Women	
Deployment	12.8 (1.9)	4.1 (0.8)	12.3 (1.9)
Having a PCS ^a	8.1 (0.3)	9.6 (1.3)	8.2 (0.3)
Work relationships	11.8 (1.0)	17.4 (2.4)	12.1 (0.9)
Problems with supervisor	12.0 (0.9)	13.0 (2.1)	12.0 (0.9)
Concern about performance rating	8.8 (0.7)	8.6 (1.5)	8.8 (0.6)
Increases in work load	15.2 (0.7)	16.7 (1.9)	15.2 (0.6)
Being away from family	19.3 (1.1)	18.0 (2.1)	19.2 (1.0)
Changes in family	13.5 (0.6)	23.8 (1.7)	14.1 (0.6)
Conflicts between military and family responsibilities	12.6 (0.7)	16.7 (1.6)	12.9 (0.7)
Financial problems	15.3 (0.9)	16.4 (2.2)	15.3 (0.9)
Housing problems	6.3 (0.4)	8.5 (1.2)	6.4 (0.4)
Personal health problems	3.9 (0.5)	12.7 (1.9)	4.4 (0.4)
Family health problems	8.1 (0.6)	10.5 (1.2)	8.3 (0.5)

Note: Entries are expressed as percentages of personnel who reported "a great deal" or a "fairly large amount" of stress in the past 12 months. (Standard errors are in parentheses.)

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

^a PCS = Permanent change of station

6.5 Coping With Stress

Information on the specific behaviors used by male and female Marine Corps personnel for coping with stress is presented in Table 6.5.

Highlights of Table 6.5 include the following:

- The specific coping behaviors that the highest percentage of Marine Corps personnel reported using to deal with stress were think of a plan to solve the problem (83.9%), talk to a friend or family member (67.9%), and exercise or play sports (65.5%). These were the most commonly reported for both male and female personnel.
- About 5% of both male (4.8%) and female (5.7%) personnel reported considering hurting or killing themselves as an option for dealing with stress.
- While the percentages of male and female personnel reporting using the specific coping behaviors for stress were comparable overall, there were some differences. A higher percentage of male personnel compared with female personnel reported having a drink (28.0% compared with 16.7%) or smoking marijuana or using illegal drugs (1.5% compared with 0.2%) as strategies for coping with stress. A higher percentage of female personnel compared with male personnel reported talking to a friend or family member (82.6% compared with 67.0%) or getting something to eat (44.8% compared with 39.0%) as strategies for coping with stress.

Table 6.5 Behaviors for Coping With Stress, by Gender

Coping Behavior	Gender		Total
	Men	Women	
Talk to friend/family	67.0 (0.7)	82.6 (1.7)	67.9 (0.8)
Light up a cigarette	27.7 (1.7)	27.3 (2.9)	27.7 (1.7)
Have a drink	28.0 (1.7)	16.7 (1.4)	27.4 (1.7)
Exercise or play sports	65.6 (2.1)	62.4 (2.9)	65.5 (2.0)
Get something to eat	39.0 (1.0)	44.8 (3.4)	39.3 (1.0)
Smoke marijuana/use illegal drugs	1.5 (0.3)	0.2 (0.3)	1.4 (0.3)
Think of plan to solve problem	83.8 (0.8)	86.1 (1.3)	83.9 (0.8)
Consider hurting or killing yourself	4.8 (0.7)	5.7 (1.5)	4.9 (0.6)

Note: Entries are expressed as percentages of personnel who "frequently" or "sometimes" engage in a behavior when they feel pressured, stressed, depressed, or anxious. (Standard errors are in parentheses.)

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

6.6 Impact of Stress on Job Performance

Stress may interfere with the ability of Marine Corps personnel to perform their military job. Information on the extent to which stress at work interfered with military job performance is presented in Table 6.6, by selected demographic variables. Information on the extent to which stress in the family or personal life interfered with military job performance is presented in Table 6.7, by selected demographic variables.

Highlights of Table 6.6 include the following:

- Overall, 44.1% of Marine Corps personnel reported that stress at work interfered with their ability to perform their military duties at least some/a little.
- Overall 6.0% of Marine Corps personnel reported that stress at work interfered with their ability to perform their military duties a lot.
- A higher percentage of females compared with males reported that stress at work interfered with their military job performance a lot (7.5% compared with 5.9%) or some/a little (44.6% compared with 37.7%).
- A higher percentage of Marine Corps personnel who reported their race as Other compared with remaining racial categories reported stress at work interfered with their military job performance a lot (7.1% compared with 5.9% to 6.1%), while a lower percentage of personnel who reported their race as Black, non-Hispanic reported stress interfered some/a little (35.2% compared with 38.3% to 39.9%).
- A lower percentage of personnel with a college degree or higher compared with the other education categories reported stress at work interfered with their military job performance a lot (2.6% compared with 5.9% to 7.0%) or some/a little (30.0% compared with 39.2% to 39.3%).
- A lower percentage of personnel in the 26-34 and 35 or older age groups compared with the 21 to 25 and 20 or younger age groups reported stress at work interfered with their military job performance a lot (3.1% to 3.2% compared with 6.7% to 8.6%) or some/a little (28.6% to 32.3% compared with 40.9% to 47.0%).
- A lower percentage of married personnel compared with single personnel reported that stress at work interfered with their military job performance a lot (4.6% compared with 7.5%) or some/a little (34.5% compared with 41.7%).
- A higher percentage of enlisted personnel compared with officers reported that stress at work interfered with their military job performance (3.9% to 9.7% compared with 1.3% to 1.4%), while a higher percentage of personnel in the E4-E6 and E1-E3 pay groups compared with the other pay groups reported stress interfered some/a little (37.1% to 45.2% compared with 26.4% to 29.5%).

Table 6.6 Interference With Military Job Performance Due to Stress at Work, by Selected Demographic Characteristics

Characteristic	Interference with Job		
	A Lot	Some/A Little	Not At All/ No Stress
Gender			
Male	5.9 (0.7)	37.7 (1.0)	54.9 (1.3)
Female	7.5 (1.8)	44.6 (1.8)	46.9 (2.3)
Race/Ethnicity			
White, non-Hispanic	5.9 (0.7)	38.3 (1.2)	54.5 (1.3)
Black, non-Hispanic	6.0 (1.2)	35.2 (2.3)	56.2 (2.1)
Hispanic	6.1 (1.5)	39.2 (2.5)	53.3 (2.8)
Other	7.1 (1.7)	39.9 (2.5)	52.0 (3.5)
Education			
High school or less	7.0 (1.0)	39.3 (1.4)	51.9 (1.3)
Some college	5.9 (0.6)	39.2 (1.4)	53.9 (1.4)
College graduate or higher	2.6 (0.6)	30.0 (1.8)	66.4 (2.1)
Age			
20 or younger	6.7 (0.9)	47.0 (1.9)	44.6 (1.7)
21-25	8.6 (1.1)	40.9 (1.2)	49.0 (1.2)
26-34	3.1 (0.5)	32.3 (1.8)	63.2 (1.5)
35 or older	3.2 (0.7)	28.6 (1.7)	67.0 (1.7)
Family status			
Not married	7.5 (0.8)	41.7 (1.5)	49.2 (1.4)
Married	4.6 (0.7)	34.5 (1.2)	59.7 (1.4)
Pay grade			
E1-E3	9.7 (0.9)	45.2 (1.4)	43.2 (1.3)
E4-E6	4.8 (0.7)	37.1 (1.3)	57.0 (1.1)
E7-E9	3.9 (0.9)	27.5 (2.3)	66.4 (2.7)
W1-W5	1.4 (0.7)	28.5 (3.4)	70.1 (3.3)
O1-O3	1.3 (0.3)	29.5 (2.6)	68.0 (2.6)
O4-O10	1.4 (0.8)	26.4 (2.1)	72.1 (1.9)
Region			
CONUS	6.0 (0.7)	38.3 (0.9)	54.3 (1.4)
OCNUS	6.3 (1.4)	37.1 (2.9)	54.8 (1.8)
Total	6.0 (0.6)	38.1 (1.0)	54.4 (1.2)

Note: Entries are expressed as percentages (with standard errors are in parentheses).

Source: DoD Survey of Health-related Behaviors Among Military Personnel, 1998.

Overall, Table 6.6 shows that stress at work affected the military job performance of young, single, junior grade personnel with less education more than other Marine Corps personnel. A higher percentage of female personnel than male personnel also reported interference with military job performance due to stress at work.

Highlights of Table 6.7 include the following:

- Overall, 30.9% of Marine Corps personnel reported that stress in family or personal life interfered with their ability to perform their military duties at least some/a little.
- Only 3.1% of Marine Corps personnel reported that stress in family or personal life interfered with their ability to perform their military duties a lot.

- A lower percentage of personnel with a college degree or higher compared with the other education categories reported stress in family or personal life interfered with their military job performance a lot (1.5% compared with 2.4% to 3.9%) or some/a little (23.0% compared with 28.2% to 29.0%).
- A lower percentage of personnel in the 26 to 34 and 35 or older age groups compared with the 21 to 25 and 20 or younger age groups reported stress in family or personal life interfered with their military job performance a lot (2.2% compared with 2.9% to 4.1%) or some/a little (21.9% to 24.4% compared with 29.9% to 31.1%).
- A higher percentage of personnel in the E1-E3 and E4-E6 pay grades compared with the other pay grade categories reported stress in family or personal life interfered with their military job performance a lot (3.0% to 4.2% compared with 1.0% to 1.7%) or some/a little (27.5% to 31.6% compared with 20.4% to 23.1%).

Table 6.7 Interference With Military Job Performance Due to Stress in the Family, by Selected Demographic Characteristics

Characteristic	Interference With Job		
	A Lot	Some/A Little	Not At All/ No Stress
Gender			
Male	3.1 (0.3)	27.6 (0.6)	68.0 (0.6)
Female	3.7 (0.7)	30.8 (1.7)	64.3 (1.6)
Race/Ethnicity			
White, non-Hispanic	2.9 (0.3)	27.0 (0.8)	68.8 (0.8)
Black, non-Hispanic	3.8 (0.7)	27.5 (2.6)	67.4 (2.4)
Hispanic	3.0 (0.8)	31.5 (1.6)	63.8 (2.0)
Other	3.8 (1.4)	26.8 (3.2)	68.4 (3.7)
Education			
High school or less	3.9 (0.3)	28.2 (1.0)	66.1 (1.1)
Some college	2.4 (0.4)	29.0 (1.0)	67.5 (0.9)
College graduate or higher	1.5 (0.6)	23.0 (1.6)	75.3 (1.4)
Age			
20 or younger	2.9 (0.4)	29.9 (3.6)	65.3 (3.5)
21-25	4.1 (0.6)	31.1 (1.9)	63.3 (1.5)
26-34	2.2 (0.6)	24.4 (1.7)	72.5 (1.8)
35 or older	2.2 (0.7)	21.9 (1.8)	74.9 (1.8)
Family status			
Not married	3.4 (0.4)	26.8 (1.5)	68.1 (1.5)
Married	2.8 (0.3)	28.8 (1.4)	67.4 (1.4)
Pay Grade			
E1-E3	4.2 (0.5)	31.6 (1.5)	62.0 (1.5)
E4-E6	3.0 (0.3)	27.5 (0.8)	68.6 (0.7)
E7-E9	1.7 (0.5)	22.4 (2.3)	74.4 (2.3)
W1-W5	1.3 (0.9)	20.8 (3.3)	76.9 (3.2)
O1-O3	1.0 (0.3)	20.4 (2.7)	78.5 (2.7)
O4-O10	1.1 (0.6)	23.1 (1.7)	75.2 (1.9)
Region			
CONUS	3.1 (0.3)	27.8 (0.6)	67.8 (0.7)
OCNUS	3.2 (0.2)	27.9 (1.4)	67.4 (1.3)
Total	3.1 (0.2)	27.8 (0.6)	67.8 (0.6)

Note: Entries are expressed as percentages (with standard errors are in parentheses).

Source: DoD Survey of Health-related Behaviors Among Military Personnel, 1998.

While Table 6.7 showed fewer differences between demographic variable categories than Table 6.6, overall stress in family or personal life affected the military job performance of young, junior grade personnel with less education more than other Marine Corps personnel. A comparison of Table 6.6 with Table 6.7 indicates that stress at work has more of a negative impact on military job performance than stress in family or personal life for Marine Corps personnel.

6.6.1 Interference of Stress With Military Occupation

Information on the extent to which stress at work interfered with military job performance is presented in Table 6.8 by occupation. Information on the extent to which stress in the family or personal life interfered with military job performance is presented in Table 6.9 by occupation.

Highlights of Table 6.8 include the following:

- In General, a lower percentage of enlisted personnel (43.3% to 62.7%) reported that stress at work does not affect their ability to perform their military job compared with officers (excluding intelligence, 53.3% to 83.5%).
- By far the highest percentage of Marine Corps personnel reporting that stress at work interfered with their ability to perform their military job were officers with the self-reported group/occupation intelligence with 23.2% reporting a lot of interference and 72.7% reporting some/a little interference.
- Among enlisted personnel, 2.5% to 9.4% reported that stress at work interfered a lot with their ability to perform their military job, while 34.9% to 50.0% reported that it interfered some/a little.
- After excluding the intelligence group/occupation, 0.0% to 3.5% of officers reported that stress at work interfered a lot with their ability to perform their military job, while 16.5% to 43.2% reported that it interfered some/a little.
- The highest percentage of enlisted personnel reporting at least some/a little interference with their ability to perform their military job from stress at work was from the electronic equipment repair group/occupation (56.7%), while the lowest percentage reported was from the craftsman group/occupation (37.3%).
- The highest percentage of officers reporting at least some/a little interference with their ability to perform their military job from stress at work was from the intelligence group/occupation (95.9%), while the lowest percentage reported was from the general/executive group/occupation (16.5%).

Table 6.8 Inability to Perform Military Job Due to Stress at Work, by Occupation

Group/Occupation	Interference With Job		
	A Lot	Some/A Little	Not at All/No Stress
Enlisted			
Direct combat	6.6 (0.7)	34.9 (2.9)	56.8 (2.6)
Electronic equipment repair	6.6 (1.7)	50.0 (3.8)	43.3 (4.6)
Communications/intelligence	5.7 (1.5)	40.2 (1.9)	52.8 (2.3)
Technical/non-health care	4.3 (1.0)	40.8 (3.1)	54.2 (3.6)
Functional support	6.1 (1.2)	40.2 (1.9)	52.6 (2.4)
Electrical/mechanical repair	7.4 (2.2)	38.2 (2.2)	52.4 (3.0)
Craftsman	2.5 (2.8)	34.8 (6.3)	62.7 (6.8)
Service and supply	9.4 (3.1)	39.1 (2.7)	51.3 (4.3)
Non-occupational	6.0 (2.5)	43.2 (5.0)	48.6 (4.5)
Total enlisted	6.5 (0.7)	39.2 (1.2)	53.1 (1.3)
Officer			
General/executive	0.0 (0.0)	16.5 (6.7)	83.5 (6.7)
Tactical operations	3.0 (1.6)	30.1 (3.3)	66.9 (3.6)
Intelligence	23.2 (7.0)	72.7 (8.0)	4.1 (4.1)
Engineering/maintenance	0.0 (0.0)	23.4 (2.7)	76.6 (2.7)
Scientist/non-health care	0.0 (0.0)	38.6 (7.9)	61.4 (7.9)
Administration	0.4 (0.4)	26.1 (4.0)	72.4 (3.9)
Supply/procurement	0.0 (0.0)	27.0 (94.9)	70.2 (4.7)
Non-occupational	3.5 (2.0)	43.2 (8.4)	53.3 (7.3)
Total officer	1.5 (0.6)	28.2 (1.8)	69.6 (1.9)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

Table 6.8 indicates that stress at work interferes with enlisted personnel's ability to perform their military job more often than with officers' ability to perform their military job.

Highlights of Table 6.9 include the following:

- In general, a lower percentage of enlisted personnel (63.9% to 71.1%) reported that stress in family or personal life does not affect their ability to perform their military job compared with officers (70.2% to 82.1%).
- Among enlisted personnel, 1.1% to 4.3% reported that stress in family or personal life interfered a lot with their ability to perform their military job, while 25.5% to 31.6% reported that it interfered some/a little.
- Among officers, 0.0% to 1.9% reported that stress in family or personal life interfered a lot with their ability to perform their military job, while 17.7% to 28.7% reported that it interfered some/a little.

- The highest percentage of enlisted personnel reporting at least some/a little interference with their ability to perform their military job from stress at work was from the technical/non-health care group/occupation (36.1%), while the lowest percentage reported was from the direct combat group/occupation (28.9%).
- The highest percentage of officers reporting at least some/a little interference with their ability to perform their military job from stress at work was from the administration group/occupation (29.8%), while the lowest percentage reported was from the supply/procurement group/occupation (17.9%).

Table 6.9 Inability to Perform Military Job Due to Stress in Family, by Occupation

Group/Occupation	Interference With Job		
	A Lot	Some/A Little	Not at All/No Stress
Enlisted			
Direct combat	2.7 (0.7)	25.5 (2.1)	71.1 (2.0)
Electronic equipment repair	1.1 (0.8)	31.3 (3.1)	66.9 (2.8)
Communications/intelligence	3.0 (0.9)	27.7 (2.9)	67.8 (3.3)
Technical/non-health care	3.6 (1.0)	30.5 (2.8)	63.9 (3.2)
Functional support	4.2 (1.0)	28.6 (1.90)	66.4 91.6)
Electrical/mechanical repair	3.8 (1.3)	28.7 (2.9)	64.7 (2.7)
Craftsman	2.4 (1.8)	31.6 (5.8)	66.1 (4.8)
Service and supply	4.3 (1.8)	29.5 (3.7)	66.0 (3.0)
Non-occupational	2.8 (1.7)	30.2 (5.8)	67.0 (6.1)
Total enlisted	3.3 (0.2)	28.2 (0.7)	67.5 (0.7)
Officer			
General/executive	0.9 (0.9)	27.1 (8.5)	72.0 (8.0)
Tactical operations	1.2 (0.4)	23.6 (3.2)	74.6 (2.9)
Intelligence	0.0 (0.0)	26.8 (7.0)	73.2 (7.0)
Engineering/maintenance	1.9 (1.0)	19.3 (3.9)	78.1 (4.1)
Scientist/non-health care	0.0 (0.0)	20.0 (6.9)	79.8 (6.9)
Administration	1.1 (1.2)	28.7 (5.5)	70.2 (5.1)
Supply/procurement	0.0 (0.0)	17.7 (3.9)	82.1 (3.8)
Non-occupational	0.0 (0.0)	23.0 (7.8)	77.0 (7.8)
Total officer	0.9 (0.3)	23.0 (1.1)	75.7 (1.1)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

Table 6.9 indicates that stress in family or personal life interferes with enlisted personnel's ability to perform their military job more often than with officers' ability to perform their military job. A comparison of Table 6.8 with Table 6.9 indicates that in general stress at work has more of a negative impact on military job performance than stress in family or personal life across Marine Corps personnel military occupations.

6.6.2 Perceived Stress and Productivity Loss

Information on the relationship between stress at work and/or in the family and specific productivity loss problems is presented in Table 6.10.

Highlights of Table 6.10 include the following:

- Approximately 25% of all Marine Corps personnel reported experiencing several of the specific productivity loss problems. 24.2% reported being late for work by 30 minutes or more at least once in the past 12 months. 34.3% reported they left work early at least once in the past 12 months. 32.6% reported they worked below normal performance level at least once in the past 12 months.
- A higher percentage of personnel who reported experiencing a high level of stress in the past 12 months reported each of the productivity loss problems than those personnel who reported moderate or low level stress in the past 12 months. The most striking difference was between the percentage of personnel with high-level stress (41.3%) and the percentage of those with moderate or low-level stress (24.7%) reporting working below normal performance level at least once in the past 12 months.
- While the percentage of Marine Corps personnel reporting 1 occurrence versus 2 or 3 occurrences versus 4 or more occurrences of being late for work by 30 minutes or more, being hurt in an on-the-job accident, or failing to come into work because of an illness or injury decreased, the percentage increased for those reporting leaving work early or working below normal performance levels.
- The percentage of personnel reporting high stress, leaving work early (7.6% 1 time, 10.2% 2 or 3 times, and 18.2% 4 or more times in the past 12 months), and working below normal performance level (7.4% 1 time, 11.9% 2 or 3 times, and 22.0% 4 or more times in the past 12 months) increased as the number of occurrences increased.

6.7 Summary

The data indicated that Marine Corps personnel experience stress that is associated with family life and work in the military. Stress had its greatest effect on young (21 to 25-year-old age group), single, junior grade (E1-E3 pay grade group) Marine Corps personnel with less than a college education. White, non-Hispanic personnel reported the highest percentage of stress; while Black, non-Hispanic personnel reported the lowest percentages of stress. A higher percentage of female (43.8%) than male (38.9%) reported experiencing a great deal or a fairly large amount of stress overall as well as stress in family life and personnel relationships. The leading source of stress for women was changes in the family, while deployment was the leading source of stress for men. The majority of respondents endorsed productive coping strategies, such as thinking of a plan to solve the problem, talking to a friend or family member, and exercising to cope with stress. Results also indicated that more males reported having a drink in response to stress. In contrast, more females reported talking to friends or family members in response to stress.

Table 6.10 Perceived Stress and Productivity Loss, Past 12 Months

Group/Problem	Number of Occurrences, Past 12 Months			
	Any	1 Time	2 or 3 Times	4 or More Times
All Marines				
Late for work by 30 minutes or more	24.2 (1.0)	10.3 (0.5)	9.0 (0.7)	4.9 (0.3)
Left work early	34.3 (1.2)	7.4 (0.7)	11.6 (0.6)	15.3 (0.9)
Hurt in an on-the-job accident	11.9 (1.0)	6.2 (0.5)	3.8 (0.4)	2.0 (0.3)
Worked below normal performance level	32.6 (1.1)	6.1 (0.5)	10.1 (0.6)	16.4 (0.8)
Did not come into work because of illness or injury	18.0 (1.1)	7.2 (0.5)	5.9 (0.6)	4.9 (0.4)
High level of stress/past 12 months^a				
Late for work by 30 minutes or more	27.8 (1.1)	11.6 (0.8)	9.8 (0.8)	6.3 (0.5)
Left work early	36.1 (1.6)	7.6 (0.8)	10.2 (0.9)	18.2 (1.3)
Hurt in an on-the-job accident	14.9 (1.3)	7.0 (0.6)	5.1 (0.7)	2.8 (0.5)
Worked below normal performance level	41.3 (1.4)	7.4 (0.6)	11.9 (0.7)	22.0 (1.2)
Did not come into work because of illness or injury	20.4 (1.5)	7.7 (0.8)	6.5 (0.8)	6.2 (0.7)
Moderate or low level of stress past 12 months^b				
Late for work by 30 minutes or more	21.1 (1.2)	9.0 (0.8)	8.5 (0.9)	3.5 (0.6)
Left work early	32.9 (1.1)	7.4 (0.7)	13.0 (0.8)	12.5 (0.7)
Hurt in an on-the-job accident	9.2 (0.9)	5.5 (0.7)	2.5 (0.4)	1.2 (0.3)
Worked below normal performance level	24.7 (1.3)	4.9 (0.6)	8.6 (0.9)	11.3 (0.7)
Did not come into work because of illness or injury	15.9 (1.2)	6.8 (0.4)	5.4 (0.6)	3.7 (0.5)

Note: Entries are expressed as percentages (with standard errors in parentheses).

Source: DoD Surveys of Health-related Behavior Among Military Personnel, 1998.

^a Defined as a "great deal" or a "fairly large amount" of stress either at work *or* in the family in the past 12 months.

^b Defined as "some," "a little," or no stress both at work *and* in the family in the past 12 months.

Table 6.10 indicates that there is a relationship between high levels of stress and productivity loss problems in Marine Corps personnel.

Excessive stress can diminish the health and quality of life for personnel. Furthermore, lack of appropriate coping strategies can exacerbate the effects of stress. The data suggest that a substantial number of Marine Corps personnel reported experiencing stress in the work setting and in their personal lives. Attention should be given to the specific sources of stress and ways to alleviate it. Further, different stress management strategies may need to be investigated for males and females.

REFERENCES

- An, A. & Watts, D. (1998). New SAS Procedures for Analysis of Sample Survey Data. Proceedings of the Twenty-third Annual SAS Users Group Conference. SAS Institute Inc., Cary NC.
- Bennett, M., McCrady, B., Johnson, V., & Pandina, R. (1999). Problem Drinking from Young Adulthood to Adulthood: Patterns, Predictors and Outcomes. *J Stud Alcohol*, 60(5), 605-614.
- Bennett, M. E., McCrady, B. S., McCrady, & Johnson, V. (1998). Problem Drinking from Young Adulthood to Adulthood: Patterns, Predictors and Outcomes. *Journal of Studies on Alcohol*, 60, 605-614.
- Bradizza, C. M., Reifman, A., & Barnes, G. M. (1999). Social and Coping Reasons for Drinking: Predicting Alcohol Misuse in Adolescents. *Research Institute on Addiction*, 60, 491-499.
- Bray, R. M., Fairbank, J. A., & Marsden, M. E. (1999). Stress and Substance Use Among Military Women and Men. *A.M. J. Drug Alcohol Abuse*, 25(2), 239-256.
- Bray, R.M., Kroutil, L.A., & Marsden, M.E. (1995). Trends in Alcohol, Illicit Drug, and Cigarette use Among U.S. Military Personnel: 1980-1992. *Armed Forces & Society*, 21, 271-293.
- Bray, R.M., Kroutil, L.A., Rounds-Bryant, J.R., & Walker, J.A. (1997). *Alcohol Use, Alcohol-Related Problems, and Perceived Stress and Coping Among U.S. Marine Corps Personnel*. Research Triangle Park, NC: Research Triangle Institute.
- Bray, R.M., Sanchez, R.P., Ornstein, M.L., Lentine, D., Vincus, A.A., Baird, T.U., Walker, J.A., Wheelless, S.C., Guess, L.L., Kroutil, L.A., & Iannacchione, V.G. (1999). *1998 Department of Defense Survey of Health-related Behaviors Among Military Personnel* (DoD Contract DAMD17-96-2-6021). Research Triangle Park, NC: Research Triangle Institute.
- Catanzaro, S. J., & Greenwood, G. (1994). Expectancies for Negative Mood Regulation, Coping, and Dysphoria Among College Students. *Counseling Psychology*, 41(1), 34-44.
- Clements, R. (1999). Prevalence of Alcohol-Use Disorders and Alcohol-Related Problems in a College Student Sample. *Journal American College Health*, 48(3), 111-118.
- Curry, S., Southwick, L., & Steele, C. (1987). Restrained Drinking: Risk Factor for Problems with Alcohol ? *Addict Behav*, 12(1), 73-77.
- Dawson, D., & Archer, L. (1993). Relative Frequency of Heavy Drinking and the Risk of Alcohol Dependence. *Addiction*, 88(11), 1509-1518.
- De Wit, D., Adlaf, E., Offord, D., & Ogborne, A. (2000). Age at First Alcohol Use: a Risk Factor for the Development of Alcohol Disorders. *Am J Psych*, 157(5), 745-750.
- Epstein, J., Botvin, G., Diaz, T., & Schinke, S. (1995). The Role of Social Factors and Individual Characteristics in Promoting Alcohol Use Among Inner-City Minority Youths. *J study Alcohol*, 56(1), 39-46.
- Fillmore, K., Golding, J., Leino, E., Motoyoshi, M., Ager, C., & Ferrer, H. (1994). Relationships of Measures of Alcohol Consumption with Alcohol-Related Problems in Multiple Studies: a Research

- Synthesis from the Collaborative Alcohol-Related Longitudinal Project. *Addiction*, 89(9), 1143-1156.
- Fisher, C., Hoffman, K., Austin-Lane, J., & Kao, T. (2000). The Relationship Between Heavy Alcohol Use and Work Productivity Loss in Active-duty Military Personnel: a Secondary Analysis of the 1995 Department of Defense Worldwide Survey. *Mil Med*, 165(5), 355-361.
- Greenfield, T., & Rogers, J. (1999). Who Drinks Most of the Alcohol in the US? The Policy Implications. *J Stud Alcohol*, 60(1), 78-89.
- Hawkins, J., Graham, J., Maguin, E., Aboott, R., Hill, K., & Catalano, R. (1997). Exploring the Effects of Age of Alcohol Use Initiation and Psychosocial Risk Factors on Subsequent Alcohol Misuse. *J Stud Alcohol*, 58(3), 280-290.
- Johnson, P., & Glassman, M. (1999). The Moderating Effects of Gender and Ethnicity on the Relationship Between Effect Expectancies and Alcohol Problems. *J stud Alcohol*, 60(1), 64-69.
- Johnson, V., & Pandina, R. J. (2000). Alcohol Problems among a Community Sample: Longitudinal Influences of Stress, Coping, and Gender. *Substance Use & Misuse*, 35(5), 669-686.
- Kalton, G. (1968). Standardization: A Technique to Control for Extraneous Variables. *Applied Statistics*, 23, 118-136.
- King, M., & Tucker, J. (2000). Behavior Change Patterns and Strategies Distinguishing Moderation Drinking and Abstinence During the Natural Resolution of Alcohol Problems Without Treatment. *Psychol Addict Behav*, 14(1), 48-55.
- Konijn, H.S. (1973). Statistical Theory of Sample Survey Design and Analysis. London: North-Holland.
- Kunz, J. L., & Graham, K. (1998). Drinking Patterns, Psychosocial Characteristics and Alcohol Consequences. *Addiction*, 93(7), 1079-1090.
- Lennox, R., Steele, P., Zarkin, G., & Bray, J. (1998). The Differential Effects of Alcohol Consumption and Dependence on Adverse Alcohol-Related Consequences: Implications for the Workforce. *Drug and Alcohol Depend*, 50(3), 211-220.
- Little, R.J.A. (1982). Direct Standardization as a Tool for Teaching Linear Models for Unbalanced Data. *American statistician*, 36(1), 38-43.
- Madianos, M., Gefou-Madianou, D., & Stefanis, C. (1995). Patterns of Alcohol Consumption and Related Problems in the General Population of Greece. *Addiction*, 90(1), 73-85.
- Fisher, C.A. (2000). The Relationship Between Heavy Alcohol Use and Work Productivity Loss in Active-duty Military Personnel; A Secondary Analysis of the 1995 Department of Defense Worldwide Survey. *Military Medicine*, 165, 5-355.
- Marczynski, K., Welte, J., Marshall, J., & Ferby, E. (1999). Prevalence and Determinants of Alcohol-Related Problems. *Am J Drug Alcohol-related problems*, 25(4), 715-730.
- McCreary, D., & Sadava, S. (2000). Stress, Alcohol Use and Alcohol-Related Problems: the Influence of Negative and Positive Affect in Two Cohorts of Young Adults. *J Stud Alcohol*, 61(3), 466-474.

- Mulford, H.A. & Miller, D.A. (1960). Drinking in Iowa: 2. The extent of drinking and selected sociocultural categories. *Quarterly Journal of Studies on Alcohol*, 21, 26-39.
- Muthen, B. O., & Muthen, L. K. (2000). The Development of Heavy Drinking and Alcohol-Related Problems from Ages 18 to 37 in a U.S. National Sample. *J. Stud Alcohol*, 61, 290-300.
- Poikolainen, K. (2000). Risk Factors for Alcohol Dependence: A Case-Control Study. *Alcohol and alcoholism*, 35(2), 190-196.
- Power, C., Rodgers, B., & Hope, S. (1999). Heavy Alcohol Consumption and Marital Status: Disentangling the Relationship in a National Study of Young Adults. *Addiction*, 94(10), 1477-1487.
- Pritchard, M., & Martin, M. (1996). Factors Associated with Alcohol Use in Young Adulthood. *Subst Use and Misuses*, 31(6), 679-689.
- Pulkkinen. (1994). A Prospective Study of the Precursors to Problem Drinking in Young Adulthood. *J Stud Alcohol*, 55(5), 578-587.
- Rachal, J.V., Guess, L.L., Hubbard, R.L., Maisto, S.A., Cavanaugh, E.R., Waddell, R., & Benrud, C.H. (1980). *Adolescent drinking behavior: Vol. 1. The extent and nature of adolescent alcohol and drug use: The 1974 and 1978 National Sample Studies (NTIS No. PB81-199267)*. Research Triangle Park, NC: Research Triangle Institute.
- Rachal, J.V., Hubbard, R.L., Willims, J.R. & Tuchfeld, B. (1976). Drinking levels and problem drinking among junior and senior high students. *Journal of Studies on Alcohol*, 37, 1751-1761.
- Rehm, J., & Gmel, G. (1999). Patterns of Alcohol Consumption and Social Consequences. Results from an 8-Year-Follow-Up Study in Switzerland. *Addiction*, 94(6), 899-912.
- Schuckit, M. A., Daeppen, J. B., Tipp, J. E., Hesselbrock, M., & Bucholz, K. K. (1998). The Clinical Course of Alcohol-Related Problems in Alcohol Dependent and Nonalcohol Dependent Drinking Women and Men. *J stud Alcohol*, 59(5), 581-590.
- Shah, B.V., Barnwell, B.G., & Bieler, G.S. (1996). *SUDAAN User's Manual: Release 7.0*. Research Triangle Park, NC: Research Triangle Institute.
- Van Oers, J. A., Bongers, I. M., van de Goor, L. A., & Garretsen, H. F. (1999). Alcohol Consumption, Alcohol-Related Problems, Problem Drinking, and Socioeconomic Status. *Alcohol and Alcoholism*, 34(1), 78-88.
- Werch, C. E., Gorman, D. R., & Marty, P. J. (1987c). Relationship Between Alcohol Consumption and Alcohol Problems in Young Adults. *J. Drug Education*, 17(3), 261-276.

APPENDIX A

CALCULATION OF ALCOHOL MEASURES

This report followed the precedent of previous reports from the 1980-1998 Department of Defense Surveys of Health-Related Behaviors Among Military Personnel in using the construction of measures of alcohol use that were created by the Research Triangle Institute (RTI). This appendix describes the RTI's calculation of the drinking level classification measure, the average daily ounces of ethanol index, and the unattributed problem measures.

A.1 Drinking Level Classification Measure

The drinking level classification scheme was adapted by RTI from Mulford and Miller (1960; see also Rachal et al., 1980; Rachal, Hubbard, Williams, & Tuchfeld, 1976) and used previously in the 1982, 1985, 1988, 1992, and 1995 DoD surveys (Bray et al., 1983, 1986, 1988, 1992, 1995). The classification scheme used (a) the "quantity per typical drinking occasion," and (b) the "frequency of drinking" for the type of beverage (beer, wine, or liquor), with the largest amount of absolute alcohol consumed per day to fit individuals into 1 of the 10 categories resulting from all combinations of quantity and frequency of consumption. (Although information on the consumption of beer in 40-ounce containers was available in the 1998 survey, for consistency with previous Marine Corps specific reports the calculations to identify the beverage with the largest amount of absolute alcohol consumed per day in the past 30 days in this report were based on reported consumption of beer only in 8-, 12-, 16-, and 32-ounce containers. This consistency in the algorithm for calculating the drinking level index allows comparison of data across the 1983-2000 reports.) The 10 categories describe whether individuals abstained, drank once a month, 3 to 4 times a month, or at least once a week and whether small, medium, or large amounts of alcohol were drunk during a typical drinking occasion.

The second step in forming the classification scheme was to combine the 10 quantity/frequency categories into 5 drinking levels: abstainers, infrequent/light drinkers, moderate drinkers, moderate/heavy drinkers, and heavy drinkers. The resulting 5 drinking levels and their definitions are:

Abstainer: Drinks once a year or less.

Infrequent/Light Drinker: Drinks 1-4 drinks per typical drinking occasion 1-3 times per month.

Moderate Drinker: Drinks 1 drink per typical drinking occasion at least once a week, *or* 2-4 drinks per typical drinking occasion 2-3 times per month, *or* 5 or more drinks per typical drinking occasion once a month or less.

Moderate/Heavy Drinker: Drinks 2-4 drinks per typical drinking occasion at least once a week *or* 5 or more drinks per typical drinking occasion 2-3 times per month.

Heavy Drinker: Drinks 5 or more drinks per typical drinking occasion at least once a week.

A.2 Average Daily Ounces of Ethanol Index

The average daily ethanol consumption index used in this study was developed by RTI. This average daily ethanol consumption index combines measures of both the typical drinking pattern of an individual over the past 30 days and any episodes of heavier consumption during the past year. For all survey respondents, a daily volume was computed separately for beer, wine, and hard liquor, using parallel procedures. The first step in these calculations was to determine the frequency with which respondents consumed each beverage during the past 30 days (Questions 15, 18, and 21). We computed each frequency in terms of the daily probability of consuming the given beverage. The response alternatives and corresponding frequency codes are listed below.

Frequency Codes for Typical Drinking Days

Response Alternative ^a	Frequency Code (F)	Method of Calculation
28-30 days (about every day)	0.967	29/30
20-27 days (5-6 days a week, average)	0.786	5.5/7
11-19 days (3-4 days a week, average)	0.500	3.5/7
4-10 days (1-2 days a week, average)	0.214	1.5/7
2-3 days in the past 30 days	0.083	2.5/30
Once in the past 30 days	0.033	1/30
Didn't drink any beer/wine/liquor in the past 30 days	0.000	0/30

^a Frequency of consumption of given beverage during past 30 days.

Source: 1998 DoD Survey of Health-related Behaviors Among Military Personnel (Q15, 18, and 21).

The second step in computing the daily volume resulting from typical drinking days was to determine the typical quantity (*Qn*) of each beverage that respondents consumed during the past 30 days, on days when they consumed the given beverage (Questions 17, 20, and 23). For quantities up through 8 beers, glasses of wine, or drinks of liquor, the code used was the exact number that the respondent indicated on Questions 17, 20, and 23.

For larger quantities of each beverage for which the answer was a range, the value used was the midpoint of the range (e.g., 9 to 11 beers were coded as 10). The codes used for the highest quantity were 22 beers, 15 glasses of wine, and 22 drinks of liquor. The size of a glass of wine (standard wine glass) was specified as 4 ounces. Two additional questionnaire items were employed to account for variations in the size of beer containers (Question 16) and strength of drinks containing liquor (Question 22). Respondents indicated the size can or bottle of beer they usually drank (Question 16), with alternatives of 8-, 12-, 16-, 32-, or 40-ounce containers, and the number of ounces of liquor in their average drink (Question 22), with alternatives of 1, 1.5, 2, 3, 4,

and 5 or more (coded as 5) ounces. (Although information on the consumption of beer in 40-ounce containers was available in the 1998 survey, for consistency with previous Marine Corps-specific reports, the algorithm for calculating the ethanol index in this report was based on reported consumption of beer only in 8-, 12-, 16-, and 32-ounce containers. This consistency in the algorithm for calculating the drinking level index allows comparison of data across the 1983-2000 reports.)

Using the measures described in the preceding paragraph, typical quantities for beer and liquor were determined by multiplying (a) the number of cans or drinks typically consumed by (b) the number of ounces of the given beverage they contained. Because the standard 4-ounce size was used for wineglasses, the typical quantity for wine was simply four times the number of glasses consumed on a typical day when the respondent drank wine. Once the typical quantity for each beverage had been determined, it was multiplied by the code for the frequency of drinking that beverage. The resulting product constituted a measure of the average number of ounces of the given beverage consumed daily as a result of the individual's typical drinking behavior.

The final step in measuring typical volume was to transform the number of ounces of beer, wine, and liquor consumed daily to ounces of ethanol for each beverage. The transformations were made by weighting ounces of beer by 0.04, wine by 0.12, and liquor by 0.43. These weights were determined by using the standard alcohol content (by volume) of the three beverages. There was one exception to this weighting procedure. Because individuals consuming large quantities of wine on a regular basis may typically drink a "fortified" wine with a higher alcohol content than regular "table" wine, a question was included to measure the type of wine usually consumed by the respondent during the past 30 days (i.e., regular or fortified; see Question 19). If the respondent indicated fortified wine, the weight used for ethanol content was 0.18 (rather than 0.12).

The procedures described above measure daily ethanol volume resulting from the individual's typical drinking days. Many people who drink also experience "atypical" days during which they consume larger quantities of alcohol than what they usually consume. To the extent that the amounts consumed on those days are close to the individual's typical volume, or that the number of atypical days is very small, the impact of such days on daily volume indices is minimal. As the quantity of alcohol consumed or the number of atypical days becomes larger, however, these episodes of heavier drinking can have a considerable impact of the individual's mean daily volume. Moreover, estimates of mean daily volume in the total population will be incomplete if the episodic heavier consumption of such individuals is ignored.

In light of the importance of accounting for the volume of alcohol consumed on atypical days, the frequency of consuming 8 or more cans of beer, glasses of wine, or drinks of liquor in the past year was measured (Questions 28, 29, and 30). Because the intention was to measure episodic behavior, the frequency questions pertained to the past year (rather than to the past 30 days, the time period used to measure typical consumption). The quantity of ethanol consumed on such atypical drinking days was coded as 5 ounces (i.e., 10 cans, glasses, or drinks, each containing 0.5 ounces of ethanol). The response alternatives and corresponding frequency codes for these questions are listed below. The sum of these three frequency codes (beer, wine, and liquor) constitutes the measure of the "frequency of heavy drinking" (i.e., days of atypical high consumption).

Frequency Codes for Atypical High-Consumption Drinking Days

Response Alternative ^a	Frequency Code (D)	Method of Calculation
About every day	338	6.5 x 52
5-6 days a week	286	5.5 x 52
3-4 days a week	182	3.5 x 52
1-2 days a week	78	1.5 x 52
2-3 days a month	30	2.5 x 12
About once a month	12	12
7-11 days in the past 12 months	9	9
3-6 days in the past 12 months	4.5	4.5
Once or twice in the past 12 months	1.5	1.5
Never in the past 12 months	0	0

^aFrequency of atypical high consumption for given beverage during past year.

Source: 1998 DoD Survey of Health-related Behaviors Among Military Personnel (Questions 28-30).

The volumes resulting from typical and atypical consumption days were combined in a straightforward manner. For each beverage, the number of days during the past year on which the beverage was consumed was estimated by multiplying the likelihood of consuming it on a given day (F) by 365. This number was then partitioned into the number of days on which atypical high consumption occurred, (D), according to the frequency codes given above and the number of typical days, $365 \times F$, minus the number of atypical days. If the respondent typically consumed 8 or more drinks of the given beverage (i.e., had a $Qn \geq 5$), the number of atypical days for that beverage was 0. If the number of atypical days was greater than or equal to the number of typical days, the term $(365 \times F - D)$ was set to 0. Each number of days was then multiplied by the ounces of ethanol consumed on such days (i.e., 5 for atypical days and the typical quantity Qn for typical days). We summed these products and then divided by 365. The resulting composite estimates refer to daily volume for the given beverage. The formula may be written as

$$AQnF = (5D + Qn(365 \times F - D))/365$$

Where

$AQnF$ = average daily volume of ethanol consumed in the form of the given beverage,

D = number of atypical high consumption days for the given beverage (0 if $Qn \geq 5$ for the given beverage),

Q_n = volume of ethanol consumed on typical drinking days for the given beverage, and

F = probability of consuming the given beverage on a given day.

The composite volume measures for the three beverages were then summed to equal the total average daily volume measure. In so doing, the following constraints were applied: (a) the composite and total volume measures were not computed for individuals for whom typical beverage-specific volumes could not be calculated, and (b) the maximum value permitted for the composite and total volume measures was 30 ounces of ethanol per day.

APPENDIX B

TECHNICAL DISCUSSION OF STANDARDIZATION APPROACH AND MULTIVARIATE ANALYSIS

This appendix describes the approach to standardization and multivariate logistic regression analysis used in this report. In general, the analyses used to produce this report remain consistent with those used by Research Triangle Institute in previous reports of Department of Defense Surveys of Health-Related Behaviors Among Military Personnel.

B.1 Standardization Approach

Many analyses in this report assess the difference between two or more groups with respect to a population characteristic. This report compared alcohol use between Marine Corps personnel in 1998 and Marine Corps personnel in prior survey years. When estimating such differences, however, it is often necessary or informative to take into account other confounding factors that are not of interest themselves but that could cloud the effect being studied. For example, heavy alcohol use may vary by demographic characteristics, such as age, race, gender, marital status, and education, and consequently would result in differences in the distributions across the survey years.

Standardization is a technique commonly used to control for important differences (such as demographic characteristics) between groups that are related to the outcome in question (Kalton, 1968; Konijn, 1973). The standardized estimate (or adjusted mean) can be interpreted as the estimate that would have been obtained if the population had the distribution of the standardizing variables, all other things being equal (Little, 1982).

Direct standardization was the method used for the standardized comparisons presented in this report (Kalton, 1968). With direct standardization, cells defined by the complete cross-classification of the standardizing variables are formed. Then the cell means are weighted by the proportions in the standardizing population. Direct standardization requires separate cell estimates for the complete cross-classification of all of the confounding and study variables. Although this requirement can limit the number of confounding variables that can be controlled (i.e., due to small sample sizes in each cell of the cross-classification), the relatively large sample sizes permitted use of this approach.

The SUDAAN (SURvey DATA ANalysis) software developed at RTI was used to compute the direct standardizations in this report (Shah, Barnwell, & Bieler, 1996). In particular, SUDAAN's Descript procedure was used to provide sample design-based estimates of the standard errors of the standardized and unstandardized estimates. *T* tests were calculated to assess the statistical significance of the differences between comparison groups (e.g., 1980 vs. 1998 estimates).

The Marine Corps data from the 1998 DoD survey (and similarly from the 1995, 1992, 1988, 1985, and 1982 surveys) were standardized to the 1980 Marine Corps population distribution of service, age, education, and marital status. In this case, the 1980 population was considered the "control" population or baseline for adjusting the age, education, and marital status characteristics

of the other populations. Prior examination of demographic changes in the military indicated that age, education, and marital status were the characteristics that exhibited the greatest change since 1980 (Bray, et al., 1995).

For each measure (proportion of heavy drinkers and ounces of ethanol), the estimate of use in 1998 was calculated for each of the standardizing cells formed by the cross-tabulation of service, age, education, and marital status. These estimates were then weighted by the estimated proportion of the 1980 Marine Corps population that fell into each cell. Hence, the 1998 data were standardized to the joint population distribution in 1980 of standardizing variables, and the standardized estimate was an estimate of what heavy alcohol use and average ounces of ethanol might be in 1998 if the 1998 Marine Corps population had the age, education, and marital status demographics of the 1980 Marine Corps population.

B.2 Multivariate Logistic Regression Analysis

For this report, multivariate logistic regression analyses were conducted to examine the independent relationships between demographic characteristics, occupation, drinking level, and negative effects. Logistic regression was used to model binary dependent measures (e.g., productivity loss vs. no productivity loss). Multiple logistic regression expresses the natural logarithm of the individual's odds (i.e., $\ln[p/1-p]$) of exhibiting the outcome behavior as a linear function of the independent variables.

There are several reasons for using logistic regression instead of ordinary least squares regression for binary variables:

- it assumes a more reasonable nonlinear relationship between the independent variables and the probability of the outcome;
- it does not permit negative predicted probabilities; and
- it makes the proper assumption that the error has a binomial rather than a normal distribution (Note, however, that the methods used by the SUDDAN linear regression procedure do not depend on homoscedasticity.)

In its natural form, the parameters of a logistic regression model indicate the change in the log odds due to a one-unit change in the independent variable. When the independent variable is a 0,1 indicator variable (e.g., non-heavy drinker = 0, heavy drinker = 1), the regression parameter indicates the difference in the log odds between the category coded 1 and the category coded 0 for that independent variable. An estimated parameter that is not significantly different from 0 indicates that the associated independent variable is not associated with the probability of the outcome occurring; a significant negative estimated regression parameter indicates a negative relationship with the outcome probability; and a significant positive estimated regression indicates a positive relationship with the outcome probability.

It is easier to interpret the parameters of a logistic regression model if the original parameters are exponentiated (i.e., $\exp(B)$) because the exponentiated parameters indicate the relative change in the odds for each unit increase in the associated independent variable. For a 0,1 indicator variable, the transformed parameter indicates the ratio of the odds of the outcome occurring for the category coded 1 to the odds of the outcome occurring for the category coded 0.

As discussed above, separate logistic regression models were fitted for alcohol-related problems associated with heavy alcohol use in the past 30 days (i.e., both attributed measures and unattributed measures), and heavy alcohol use. For each of the models, the outcome variable was modeled as a function of the following demographic variables: gender, race/ethnicity, education, age, family status (i.e., marital status and presence/absence of spouse if married), pay grade, and region (i.e., stationed within the continental United States [CONUS] or outside the continental United States [OCONUS]). Models in Chapter 4 that examined the odds of experiencing alcohol-related negative effects included occupation and drinking level as independent variables. However, models for problems attributed to alcohol use excluded abstainers from the drinking level classification, whereas models that examined unattributed problems included abstainers as part of the drinking levels variable. Models in Chapter 5 that examined the odds of heavy alcohol use according to other health-risk behaviors included demographic measures noted above, along with indicators of the use of seat belts, drinking and driving, and risky sexual behavior.

The SUDAAN regression procedure LOGIST was used for estimating the parameters, preparing the variance-covariance matrix, and performing statistical tests about the parameters. The results of the logistic regression analyses were expressed as odds ratios, with the odds ratio of the comparison or reference group expressed as 1.00. Odds ratios greater than 1.00 indicate a greater likelihood of the comparison group exhibiting the outcome of interest (e.g., alcohol-related negative effects, heavy alcohol use) relative to the reference group. Odds ratios less than 1.00 indicate a lower likelihood of the comparison group exhibiting the outcome of interest.

The 95% confidence intervals are also shown for the odds ratios based on these logistic regression analyses. If the odds of a person being a heavy alcohol user in a comparison group (e.g., Marines stationed in CONUS) were significantly different from the odds of a person in the reference group having this outcome, then the odds ratio of the comparison group to the reference group (e.g., CONUS vs. OCONUS) was significantly different from 1.00. An odds ratio that is significantly different from 1.00 is indicated by a 95% confidence interval that does not include 1.00 in the interval. Confidence intervals for all tables appear with the estimates in each table.

Appendix C

1998 DoD Survey Questionnaire



1998 DEPARTMENT OF DEFENSE SURVEY OF HEALTH RELATED BEHAVIORS AMONG MILITARY PERSONNEL

RCS # DD-HA(AR)1785

HEALTH AFFAIRS

INTRODUCTION

Who are we? We are from Research Triangle Institute, a not-for-profit research company under contract to the Assistant Secretary of Defense-Health Affairs.

How were you selected? You were randomly selected to participate in this important research survey.

Must you participate? Your participation in this survey is voluntary. We encourage you to answer all of the questions honestly, but you are not required to answer any question to which you object.

What are the questions about? Mainly about alcohol, tobacco, and drug use. Additional questions ask about health attitudes and behavior, such as questions on stress, exercise, high blood pressure, and sexual behavior. We also ask some questions about gambling.

Who will see your answers? Only civilian researchers. No military personnel will see your answers. Your answers will be combined with those from other military personnel to prepare a statistical report. This questionnaire will be anonymous if you **DO NOT WRITE YOUR NAME OR SOCIAL SECURITY NUMBER ANYWHERE ON THIS BOOKLET.**

INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

- Most questions provide a set of answers. Read all the printed answers before marking your choice. If **none** of the printed answers exactly applies to you, mark the circle for the one answer that **best** fits your situation.

- Use only the pencil you were given.
- Make heavy black marks that **fill** the circle for your answer.

CORRECT MARK



INCORRECT MARKS



- Erase **cleanly** any answer you wish to change.
- Do not make stray marks of any kind anywhere in this booklet.
- For many questions, you should mark only **one** circle for your answer in the column below the question, as shown here:

EXAMPLE: How would you describe your health?

- ☐ Excellent
- ☒ Good
- ☐ Fair
- ☐ Poor

- If you are asked to give numbers for your answer, please complete the grid as shown below.

EXAMPLE: During the **past 30 days**, how many full 24-hour days were you deployed at sea or in the field?

- First, write your answer in the boxes. Use **both** boxes. Write **ONE** number in each box.

- Always write the last number in the **right-hand box**. Fill in any **unused** boxes with zeros. For example, an answer of "5 days" would be written as "05."

- Then, **darken** the matching circle below each box.

DAYS

0	5
<input checked="" type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>

- Sometimes you will be asked to "Darken one circle on each line." For these questions, record an answer for **each part** of the question, as shown here:

EXAMPLE: How often do you do each of the following?

(Darken one circle on each line)

	Often	Sometimes	Never
Swim	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bowl	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Play tennis	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

NOW PLEASE TURN THE PAGE AND BEGIN WITH QUESTION 1.

1. What Service are you in?

- ☐ Army
- ☐ Navy
- ☐ Marine Corps
- ☐ Air Force

2. What is your pay grade?

ENLISTED

- ☐ E-1
- ☐ E-2
- ☐ E-3
- ☐ E-4
- ☐ E-5
- ☐ E-6
- ☐ E-7
- ☐ E-8
- ☐ E-9

OFFICER

- ☐ Trainee
- ☐ W1-W5
- ☐ O-1 or O-1E
- ☐ O-2 or O-2E
- ☐ O-3 or O-3E
- ☐ O-4
- ☐ O-5
- ☐ O-6
- ☐ O7-O10

3. What is your highest level of education now?

- ☐ Did not graduate from high school
- ☐ GED or ABE certificate
- ☐ High school certificate
- ☐ Trade or technical school graduate
- ☐ Some college but not a 4-year degree
- ☐ 4-year college degree (BA, BS, or equivalent)
- ☐ Graduate or professional study but no graduate degree
- ☐ Graduate or professional degree

4. How old were you on your last birthday?

- First, enter your age in the boxes. Use both boxes. Write ONE number in each box.

- Then, darken the matching circle below each box.

AGE

0	1
2	3
4	5
6	7
8	9

5. Are you male or female?

- ☐ Male
- ☐ Female

6. What is your marital status?

- ☐ Married
- ☐ Living as married
- ☐ Separated and not living as married
- ☐ Divorced and not living as married
- ☐ Widowed and not living as married
- ☐ Single, never married and not living as married

If you are married or living as married, the term "spouse," as used in this questionnaire, refers to your wife or husband or to the person with whom you live as married.

7. Is your spouse now living with you at your present duty location?

- ☐ Yes
- ☐ No
- ☐ I have no spouse

8. Do you have any children living with you at your present duty location?

- ☐ Yes
- ☐ No
- ☐ I have no children

9. Are you of Spanish/Hispanic origin or descent?

- ☐ No (not Spanish/Hispanic)
- ☐ Yes, Mexican/Mexican-American/Chicano
- ☐ Yes, Cuban
- ☐ Yes, Puerto Rican
- ☐ Yes, Central or South American
- ☐ Yes, other Spanish/Hispanic

10. Which of these categories best describes you?

- ☐ American Indian/Eskimo/Aleut
- ☐ Black/African-American
- ☐ Asian/Chinese/Japanese/Korean/
Filipino/Pacific Islander
- ☐ White/Caucasian
- ☐ Other (Please specify below)

11. Are you currently serving on a ship that is deployed?

- ☐ Yes
- ☐ No

12. In what type of housing do you currently live? (If your dependents are with you mark type of family housing.)

- ☐ Housing that you rent or lease from a civilian or that you personally own
- ☐ On board ship
- ☐ Military barracks/dormitory or bachelor quarters
- ☐ On-base military family housing
- ☐ Off-base military family housing

13. Here are some statements about things that happen to people. How many times in the past 12 months did each of the following happen to you?

(Darken one circle on each line)

NUMBER OF TIMES IN PAST 12 MONTHS

	3 or More	2	1	Never	Doesn't Apply
I had an illness that kept me from duty for a week or longer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I didn't get promoted when I thought I should have been	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I got a lower score than I expected on my efficiency report or performance rating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I received UCMJ punishment (Court Martial, Article 15, Captain's Mast, Office Hours)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was arrested for a driving violation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was arrested for an incident not related to driving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spent time in jail, stockade, or brig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was hurt in an accident (any kind)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I caused an accident where someone else was hurt or property was damaged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hit my spouse or the person I date	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hit my child(ren) for a reason other than discipline (spanking)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I got into a fight where I hit someone other than a member of my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My wife or husband threatened to leave me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My wife or husband left me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. The statements below are about some other things that happen to people. How many times in the past 12 months did each of the following happen to you?

(Darken one circle on each line)

NUMBER OF TIMES IN PAST 12 MONTHS

	3 or More	2	1	Never	Doesn't Apply
I had heated arguments with family or friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had trouble on the job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was involved in a motor vehicle accident while I was driving (regardless of who was responsible)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had health problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I drove unsafely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I neglected my family responsibilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had serious money problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had trouble with the police (civilian or military)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it harder to handle my problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had to have emergency medical help (for any reason)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I got into a loud argument in public	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The next group of questions is about past and current use of alcoholic beverages – that is, beer, wine, and liquor. By "liquor," we mean whiskey, rum, gin, vodka, bourbon, scotch, tequila, or any other type of alcoholic beverage. Please take your time on these questions and answer each one as accurately as possible. If the answers provided are more exact than you can remember, mark your best estimate. If you can't decide between two answer choices because you drink different amounts at different times, answer for the time you drank the most.

15. During the past 30 days, on how many days did you drink beer?

- ☐ 28-30 days (about every day)
- ☐ 20-27 days (5-6 days a week, average)
- ☐ 11-19 days (3-4 days a week, average)
- ☐ 4-10 days (1-2 days a week, average)
- ☐ 2-3 days in the past 30 days
- ☐ Once in the past 30 days
- ☐ Didn't drink any beer in the past 30 days

16. During the past 30 days, what size cans or bottles of beer did you usually drink? (Beer is most commonly sold and served in 12-ounce cans, mugs, bottles, or glasses in the U.S.)

- ☐ 8-ounce can, bottle, or glass
- ☐ Standard 12-ounce can, bottle, or mug
- ☐ 16-ounce ("tall boy") can, bottle, or mug (½ liter)
- ☐ Liter or quart (32-oz.) bottle or mug
- ☐ 40-ounce bottle (a "forty")
- ☐ Some other size
- ☐ Didn't drink any beer in the past 30 days

17. Think about the days when you drank beer in the past 30 days. How much beer did you usually drink on a typical day when you drank beer?

- ☐ 18 or more beers
- ☐ 15-17 beers
- ☐ 12-14 beers
- ☐ 9-11 beers
- ☐ 8 beers
- ☐ 7 beers
- ☐ 6 beers
- ☐ 5 beers
- ☐ 4 beers
- ☐ 3 beers
- ☐ 2 beers
- ☐ 1 beer
- ☐ Didn't drink any beer in the past 30 days

18. During the past 30 days, on how many days did you drink wine?

- ☐ 28-30 days (about every day)
- ☐ 20-27 days (5-6 days a week, average)
- ☐ 11-19 days (3-4 days a week, average)
- ☐ 4-10 days (1-2 days a week, average)
- ☐ 2-3 days in the past 30 days
- ☐ Once in the past 30 days
- ☐ Didn't drink any wine in the past 30 days

19. During the past 30 days, did you usually drink a regular wine or a fortified wine?

- ☐ Regular wine (also called "table" or "dinner" wine)
- ☐ Fortified wine (like Thunderbird, Night Train, sherry, port, vermouth, brandy, Dubonnet, champagne, etc.)
- ☐ Wine cooler (such as Bartles & Jaymes, etc.)
- ☐ Didn't drink any wine in the past 30 days

20. Think about the days when you drank wine in the past 30 days. How much wine did you usually drink on a typical day when you drank wine? (The standard wineglass holds about 4 ounces of wine. The standard wine bottle holds 750 ml.)

- ☐ 12 or more wineglasses (2 bottles or more)
- ☐ 9-11 wineglasses
- ☐ 8 wineglasses
- ☐ 7 wineglasses
- ☐ 6 wineglasses (about 1 bottle)
- ☐ 5 wineglasses
- ☐ 4 wineglasses
- ☐ 3 wineglasses (about ½ bottle)
- ☐ 2 wineglasses
- ☐ 1 wineglass
- ☐ Didn't drink any wine in the past 30 days

21. During the past 30 days, on how many days did you drink liquor?

- ☐ 28-30 days (about every day)
- ☐ 20-27 days (5-6 days a week, average)
- ☐ 11-19 days (3-4 days a week, average)
- ☐ 4-10 days (1-2 days a week, average)
- ☐ 2-3 days in the past 30 days
- ☐ Once in the past 30 days
- ☐ Didn't drink any liquor in the past 30 days

22. During the past 30 days, about how many ounces of liquor did you usually have in your average drink? (The average bar drink, mixed or straight, contains a "jigger" or 1½ ounces of liquor.)

- ☐ 5 or more ounces
- ☐ 4 ounces
- ☐ 3 ounces (a "double")
- ☐ 2 ounces
- ☐ 1½ ounces (a "jigger")
- ☐ 1 ounce (a "shot")
- ☐ Didn't drink any liquor in the past 30 days

23. Think about the days when you drank liquor in the past 30 days. How much liquor did you usually drink on a typical day when you drank liquor?

- ☐ 18 or more drinks
- ☐ 15-17 drinks
- ☐ 12-14 drinks
- ☐ 9-11 drinks
- ☐ 8 drinks
- ☐ 7 drinks
- ☐ 6 drinks
- ☐ 5 drinks
- ☐ 4 drinks
- ☐ 3 drinks
- ☐ 2 drinks
- ☐ 1 drink
- ☐ Didn't drink any liquor in the past 30 days

24. During the past 30 days, on how many days did you have 5 or more drinks of beer, wine, or liquor on the same occasion? (By "drink," we mean a bottle or can of beer, a wine cooler or a glass of wine, a shot of liquor, or a mixed drink or cocktail. By "occasion," we mean at the same time or within a couple of hours of each other.)

☐ 28-30 days (about every day)
☐ 20-27 days (5-6 days a week, average)
☐ 11-19 days (3-4 days a week, average)
☐ 4-10 days (1-2 days a week, average)
☐ 2-3 days in the past 30 days
☐ Once in the past 30 days
☐ I drank during the past 30 days, but I never had 5 or more drinks on the same occasion
☐ I didn't drink in the past 30 days

25. Think about the days you worked during the past 30 days. How often did you have a drink 2 hours or less before going to work?

☐ Every work day
☐ Most work days
☐ About half of my work days
☐ Several work days
☐ One or two work days
☐ Never in the past 30 days
☐ Don't drink

26. On those days when you worked during the past 30 days, how often did you have a drink during your lunch break? (Answer for the main meal that occurred during your usual duty hours.)

☐ Every work day
☐ Most work days
☐ About half of my work days
☐ Several work days
☐ One or two work days
☐ Never in the past 30 days
☐ Don't drink

27. During the past 30 days, how often did you have a drink while you were working (on-the-job) or during a work break?

☐ Every work day
☐ Most work days
☐ About half of my work days
☐ Several work days
☐ One or two work days
☐ Never in the past 30 days
☐ Don't drink

The next three questions ask about your use of beer, wine, and liquor during the past 12 months - that is, since this time last year.

28. During the past 12 months, how often did you drink 8 or more cans, bottles, or glasses of beer (3 quarts or more) in a single day?

☐ About every day
☐ 5-6 days a week
☐ 3-4 days a week
☐ 1-2 days a week
☐ 2-3 days a month
☐ About once a month
☐ 7-11 days in the past 12 months
☐ 3-6 days in the past 12 months
☐ Once or twice in the past 12 months
☐ Never in the past 12 months
☐ Don't drink beer

29. During the past 12 months, how often did you drink 8 or more glasses of wine (more than a 750 ml bottle) in a single day?

☐ About every day
☐ 5-6 days a week
☐ 3-4 days a week
☐ 1-2 days a week
☐ 2-3 days a month
☐ About once a month
☐ 7-11 days in the past 12 months
☐ 3-6 days in the past 12 months
☐ Once or twice in the past 12 months
☐ Never in the past 12 months
☐ Don't drink wine

30. During the past 12 months, how often did you drink 8 or more drinks of liquor (a half-pint or more) in a single day?

☐ About every day
☐ 5-6 days a week
☐ 3-4 days a week
☐ 1-2 days a week
☐ 2-3 days a month
☐ About once a month
☐ 7-11 days in the past 12 months
☐ 3-6 days in the past 12 months
☐ Once or twice in the past 12 months
☐ Never in the past 12 months
☐ Don't drink liquor

31. The following list includes some of the reasons people give for drinking beer, wine, or liquor. Please tell us how important each reason is to you, for your drinking.

(Darken one circle on each line)	Very Important	Fairly Important	Slightly Important	Not at All Important	Don't Drink
To be friendly or social	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To forget my worries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To relax	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To help cheer me up when I am in a bad mood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To help me when I am depressed or nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To help me when I am bored and have nothing to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To increase my self-confidence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To get drunk or "high"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Now think about your use of beer, wine, or liquor over the past 12 months—that is, since this time last year. The term "work day," as used in this questionnaire, refers to days when you worked at your duty station or were on quick-response (30 minutes or less) call.

32. The following statements describe some things connected with drinking that affect people on their work days. Please indicate on how many work days in the past 12 months these things ever happened to you.

(Darken one circle on each line)	NUMBER OF WORK DAYS IN PAST 12 MONTHS								Don't Drink
	40 or More	21- 39	12- 20	7-11	4-6	3	2	1 None	
I was hurt in an on-the-job accident because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was late for work or left work early because of drinking, a hangover, or an illness caused by drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I did not come to work at all because of a hangover, an illness, or a personal accident caused by drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worked below my normal level of performance because of drinking, a hangover, or an illness caused by drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was drunk or "high" while working because of drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was called in during off-duty hours and reported to work feeling drunk or "high" from alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. For each statement below, please indicate how often you have had this experience during the past 12 months.

(Darken one circle on each line)	5-6 About Every Day	3-4 Days a Week	1-2 Days a Week	1-3 Days a Month	Less Often Than Monthly	Never	Don't Drink
	My hands shook a lot after drinking the day before	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I awakened unable to remember some of the things I had done while drinking the day before	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I could not stop drinking before becoming drunk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was sick because of drinking (nausea, vomiting, severe headaches, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I took a drink the first thing when I got up for the day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had the "shakes" because of drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I got drunk or very high from drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. Here are some statements about things that happen to people while or after drinking or because of using alcohol. How many times in the past 12 months did each of the following happen to you?

NUMBER OF TIMES IN PAST 12 MONTHS

(Darken one circle on each line)

	3 or More	2	1	Never	Don't Drink
I didn't get promoted because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I got a lower score on my efficiency report or performance rating because of drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had an illness connected with my drinking that kept me from duty for a week or longer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I received UCMJ punishment (Court Martial, Article 15, Captain's Mast, Office Hours) because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was arrested for driving under the influence of alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was arrested for a drinking incident not related to driving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spent time in jail, stockade, or brig because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was hurt in any kind of accident because of drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My drinking caused an accident where someone else was hurt or property was damaged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I got into a fight where I hit someone other than a member of my family when I was drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My wife or husband threatened to leave me because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My wife or husband left me because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The word "installation," as used in this questionnaire, refers to your post, camp, base, station, or other geographic duty location. Navy and Marines Assigned to Ships: The word "installation" refers to your ship when in home port.

35. Please indicate how much you agree or disagree with each of the following statements.

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know/No Opinion
<i>(Darken one circle on each line)</i>					
Drinking will interfere with my health or physical fitness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's hard to fit in at this installation if you don't drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disciplinary action will be taken against any person identified as having a drinking problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Driving while intoxicated on-base at this installation is a sure way to get arrested	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At this installation, we should receive more education about alcohol use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of alcohol is against my basic values or beliefs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seeking help for a drinking problem will damage one's military career	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are some times at work when I could use a drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of my friends drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drinking is part of being in the military	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My spouse or the person I date disapproves of my drinking (or would disapprove if I did drink)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drinking is just about the only recreation available at this installation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My drinking sometimes interferes with my work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At parties or social functions at this installation, everyone is encouraged to drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. The statements below are about some other things that happen to people because of using alcohol. How many times in the past 12 months did each of the following happen to you?

NUMBER OF TIMES IN PAST 12 MONTHS

(Darken one circle on each line)

	3 or More	2	1	Never	Don't Know
I had to be detoxified because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had trouble on the job because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had trouble with the police (civilian or military) because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it harder to handle my problems because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had to have emergency medical help because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was not able to deploy or go into the field because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was delayed in being deployed or going into the field because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had to return early from a deployment because of my drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

37. In the past 12 months, how often did you drive a car or other motor vehicle within 2 hours of drinking any amount of beer, wine, or liquor? Your best estimate is fine.

- ☐ About every day
- ☐ 5-6 days a week
- ☐ 3-4 days a week
- ☐ 1-2 days a week
- ☐ 2-3 days a month
- ☐ About once a month
- ☐ 7-11 days in the past 12 months
- ☐ 3-6 days in the past 12 months
- ☐ Once or twice in the past 12 months
- ☐ I drove in the past 12 months, but I never drove within 2 hours of drinking
- ☐ I didn't drive in the past 12 months

38. On those occasions when you drove within 2 hours of drinking beer, wine, or liquor in the past 12 months, about how many drinks did you usually have before you drove? (By "drink," we mean a bottle or can of beer, a wine cooler or a glass of wine, a shot of liquor, or a mixed drink or cocktail.)

- ☐ 9 or more drinks
- ☐ 5-8 drinks
- ☐ 4 drinks
- ☐ 3 drinks
- ☐ 2 drinks
- ☐ 1 drink
- ☐ I drove in the past 12 months, but I never drove within 2 hours of drinking
- ☐ I didn't drive in the past 12 months

39. About how old were you when you first began to use alcohol once a month or more often?

- First, enter the age in the boxes. Use both boxes. Write **ONE** number in each box.

- Then, darken the matching circle below each box.

- ☐ I have never used alcohol at least once a month.

AGE

0	1
2	3
4	5
6	7
8	9
10	11

40. Are you now drinking more, about the same, or less than you did before you entered the Service?

- ☐ Drink more now
- ☐ Drink about the same
- ☐ Drink less now (but still drink)
- ☐ Drank before entering the Service but do not drink now
- ☐ Did not drink before entering the Service and do not drink now

41. Since you joined the Service, have you received professional counseling or treatment for a drinking-related problem from any of the following sources? (Darken one circle on each line)

Don't Drink
Have Had No Problem
No
Yes

- Through a military clinic, hospital, or other military medical facility . . . ☐ . . . ☐ . . . ☐ . . . ☐ . . . ☐ . . . ☐
- Through a military counseling center or other military alcohol treatment or rehabilitation program ☐ . . . ☐ . . . ☐ . . . ☐
- Through a civilian doctor, clinic, hospital, or other civilian medical facility ☐ . . . ☐ . . . ☐ . . . ☐
- Through a civilian alcohol counselor, mental health center, or other civilian alcohol treatment or rehabilitation program ☐ . . . ☐ . . . ☐ . . . ☐

Now we would like to ask some questions about cigarettes and other tobacco products.

42. How old were you when you first started smoking cigarettes fairly regularly?

• First, enter the age in the boxes. Use both boxes. Write ONE number in each box.

• Then, darken the matching circle below each box.

- ☐ I have never smoked at least one cigarette a day for a week or longer.

AGE

0	1
2	3
4	5
6	7
8	9
0	1
2	3
4	5
6	7
8	9

43. For how many years altogether have you smoked daily? (Do not count any time when you quit smoking.)

• First, enter the number of years in the boxes. Use both boxes. Write ONE number to a box.

• If you have smoked regularly for less than 1 year, record "01."

• Then, darken the matching circle below each box.

- ☐ I have never smoked at least one cigarette a day for a week or longer.

YEARS

0	1
2	3
4	5
6	7
8	9
0	1
2	3
4	5
6	7
8	9

44. When was the last time you smoked a cigarette?

- ☐ Today
☐ During the past 30 days
☐ 5-8 weeks ago
☐ 2-3 months ago
☐ 4-6 months ago
☐ 7-12 months ago
☐ 1-3 years ago
☐ More than 3 years ago
☐ Never smoked cigarettes

45. Think about the past 30 days. How many cigarettes did you usually smoke on a typical day?

- ☐ About 3 or more packs a day (more than 55 cigarettes)
☐ About 2½ packs a day (46-55 cigarettes)
☐ About 2 packs a day (36-45 cigarettes)
☐ About 1½ packs a day (26-35 cigarettes)
☐ About 1 pack a day (16-25 cigarettes)
☐ About ½ pack a day (6-15 cigarettes)
☐ 1-5 cigarettes a day
☐ Less than 1 cigarette a day, on the average
☐ Did not smoke any cigarettes in the past 30 days

46. For about how many years have you smoked the number of cigarettes in question 45? (Do not count any time when you quit smoking.)

• First, enter the number of years in the boxes. Use both boxes, ONE number in each box.

• If you have smoked regularly for less than 1 year, record "01."

• Then, darken the matching circle below each box.

- ☐ I did not smoke in the past 30 days, or I have never smoked cigarettes.

YEARS

0	1
2	3
4	5
6	7
8	9
0	1
2	3
4	5
6	7
8	9

47. Have you smoked at least 100 cigarettes in your entire life? (That would be 5 packs or more in your entire life.)

- ☐ Yes
☐ No

48. During the past 12 months, have you made a serious attempt to stop smoking cigarettes; that is, did you go for at least a week without smoking?

- ☐ Yes
- ☐ No
- ☐ Didn't smoke cigarettes in the past 12 months
- ☐ Never smoked cigarettes

49. Are you seriously intending to quit smoking cigarettes in the next 6 months?

- ☐ Yes
- ☐ No
- ☐ Don't smoke cigarettes

50. Are you planning to quit smoking cigarettes in the next 30 days?

- ☐ Yes
- ☐ No
- ☐ Don't smoke cigarettes

51. When was the last time you used chewing tobacco, snuff, or other smokeless tobacco?

- ☐ During the past 30 days
- ☐ More than 1 month ago but within the past 6 months
- ☐ More than 6 months ago but within the past year
- ☐ More than 1 year ago but within the past 2 years
- ☐ More than 2 years ago
- ☐ Never used smokeless tobacco

52. How old were you when you first used chewing tobacco, snuff, or other smokeless tobacco?

- First, enter the age in the boxes. Use both boxes, ONE number to a box.

- Then, darken the matching circle below each box.

- ☐ I have never used smokeless tobacco.

AGE

0	1
2	3
4	5
6	7
8	9
0	1
2	3
4	5
6	7
8	9

53. For how many years have you used chewing tobacco, snuff, or other smokeless tobacco?

- Enter the number of years in the boxes. Use both boxes, ONE number to a box.

- If you have used smokeless tobacco for less than 1 year, record "01."

- Then, darken the matching circle below each box.

- ☐ I have never used smokeless tobacco.

YEARS

0	1
2	3
4	5
6	7
8	9
0	1
2	3
4	5
6	7
8	9

54. During the past 12 months, how often on the average have you used chewing tobacco, snuff, or other smokeless tobacco?

- ☐ About every day
- ☐ 5-6 days a week
- ☐ 3-4 days a week
- ☐ 1-2 days a week
- ☐ 2-3 days a month
- ☐ About once a month
- ☐ 7-11 days in the past 12 months
- ☐ 3-6 days in the past 12 months
- ☐ Once or twice in the past 12 months
- ☐ Never in the past 12 months
- ☐ Never used smokeless tobacco

55. Have you used chewing tobacco, snuff, or other smokeless tobacco at least 20 times in your entire life?

- ☐ Yes
- ☐ No

56. Have you started using chewing tobacco, snuff, or other smokeless tobacco because of military restrictions on where you can smoke cigarettes?

- ☐ Yes
- ☐ No
- ☐ Don't use smokeless tobacco

57. During the past 12 months, how often on the average have you smoked cigars or a pipe?

- | | |
|--|---|
| <input type="radio"/> About every day | <input type="radio"/> 7-11 days in the past 12 months |
| <input type="radio"/> 5-6 days a week | <input type="radio"/> 3-6 days in the past 12 months |
| <input type="radio"/> 3-4 days a week | <input type="radio"/> Once or twice in the past 12 months |
| <input type="radio"/> 1-2 days a week | <input type="radio"/> Never in the past 12 months |
| <input type="radio"/> 2-3 days a month | <input type="radio"/> Never smoked cigars or a pipe |
| <input type="radio"/> About once a month | |

58. Please indicate how much you agree or disagree with each of the following statements.

<i>(Darken one circle on each line)</i>	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know/No Opinion
Smoking will harm my health or physical fitness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The number of places to buy cigarettes at this installation makes it easy to smoke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disciplinary action will be taken against any person smoking indoors while at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of tobacco is against my basic values or beliefs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are times at work when I could use a cigarette	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of my friends smoke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smoking is part of being in the military	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My spouse or the person I date disapproves of my smoking (or would disapprove if I did smoke)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't like being around people when they're smoking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being around people who are smoking will harm my health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So many things cause cancer that it really doesn't matter if you smoke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smokers should be allowed extra break time to get to a designated smoking area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

59. The following list includes reasons that people sometimes give for why they started smoking cigarettes regularly. If you have ever smoked cigarettes regularly, please tell us how important each reason was for you starting to smoke.

<i>(Darken one circle on each line)</i>	Very Important	Fairly Important	Slightly Important	Not at All Important	Never Smoked Regularly
To fit in with my friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To fit in with my military unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To rebel against my parents or others in authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To look "cool" or be "cool"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To help relieve stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To help me relax or calm down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To relieve boredom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So I wouldn't want to eat as much	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To look or feel like an adult	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because most people in my family smoked cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To prove I could handle it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To be like someone I admired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To show I was tough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The next set of questions is about use of drugs for non-medical purposes. First, we list the types of drugs we are interested in, along with some of their most common trade and clinical names.

DRUG TYPES	COMMON TRADE/CLINICAL NAMES
Marijuana or Hashish	Cannabis, THC
PCP (alone or combined with other drugs)	Phencyclidine (PCP)
LSD and Other Hallucinogens	LSD, Mescaline, Peyote, DMT, Psilocybin
Cocaine	Cocaine (including "crack")
Amphetamines, Methamphetamines, and Other Stimulants	Ice, crystal meth, Preludin, Benzedrine, Biphedamine, Cylert, Desoxyn, Dextroamphetamine, Dexamyl, Dexedrine, Didrex, Eskatrol, Ionamin, Methedrine, Obedrin-LA, Plegine, Pondimin, Pre-Sate, Ritalin, Sanorex, Tenuate, Tepanil, Voranil
Tranquilizers and Other Depressants	Ativan, Meproamate, Librium, Valium, Atarax, Benadryl, Equanil, Libritabs, Meprospan, Miltown, Serax, SK-Lygen, Thorazine, Tranxene, Verstran, Vistaril, Xanax
Barbiturates and Other Sedatives	Seconal, Alurate, Amobarbital, Amytal, Buticaps, Butisol, Carbital, Dalmane, Doriden, Eskabarb, Luminal, Mebaral, Methaqualone, Nembutal, Noctec, Noludar, Optimil, Parest, Pentobarbital, Phenobarbital, Placidyl, Quaalude, Secobarbital, Sopor, Tuinal
Heroin and Other Opiates	Heroin, Morphine, Opium
Analgesics and Other Narcotics	Darvon, Demerol, Percodan, Tylenol with Codeine, Codeine, Cough Syrups with Codeine, Dilaudid, Dolene, Dolophine, Leritine, Levo-Dromoran, Methadone, Propoxyphene, SK-65, Talwin
Inhalants	Lighter fluids, aerosol sprays like Pam, glue, toluene, amyl nitrite, gasoline, poppers, locker room deodorizers, spray paints, paint thinner, halothane, ether or other anesthetics, nitrous oxide ("laughing gas"), correction fluids, cleaning fluids, degreasers
"Designer" Drugs	These drugs, with names like "Ecstasy," "Adam," "Eve," are made by combining two or more, often legal, drugs or chemicals to produce drugs specifically for their mood-altering or psychoactive effects.
Anabolic Steroids	Testosterone, Methyltestosterone, or other drugs taken to improve physical strength

Although some of the drugs listed above may be prescribed for medical reasons, the questions that follow refer to use of these drugs for non-medical purposes. By non-medical purposes, we mean any use of these drugs on your own—that is, either without a doctor's prescription, or in greater amounts or more often than prescribed, or for any reasons other than a doctor said you should take them, such as to get high, for thrills or kicks, to relax, to give insight, for pleasure, or curiosity about the drug's effect. Please take your time and answer the questions as accurately as possible. Remember, **NO ONE** will ever link your answers with your identity.

60. During the past 30 days, on about how many days did you use each of the following drugs for non-medical purposes?

(Darken one circle on each line)	11 or More Days	4-10 Days	1-3 Days	Never in Past 30 Days
Marijuana or hashish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PCP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LSD or other hallucinogens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cocaine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amphetamines or other stimulants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tranquilizers or other depressants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barbiturates or other sedatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heroin or other opiates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analgesics or other narcotics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inhalants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Designer" drugs ("Ecstasy," etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anabolic steroids	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

61. On the average, how often in the past 12 months have you taken each of the following drugs for non-medical purposes?

USED THIS TYPE OF DRUG IN PAST 12 MONTHS

(Darken one circle on each line)	52 Days or More	25-51 Days	12-24 Days	6-11 Days	3-5 Days	1-2 Days	Never in Past Year
Marijuana or hashish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PCP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LSD or other hallucinogens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cocaine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amphetamines or other stimulants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tranquilizers or other depressants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barbiturates or other sedatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heroin or other opiates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analgesics or other narcotics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inhalants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Designer" drugs ("Ecstasy," etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anabolic steroids	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

62. Please indicate how much you agree or disagree with each of the following statements.

(Darken one circle on each line)

Strongly
Agree

Agree

Disagree

Strongly
Disagree

Don't
Know/No
Opinion

Anyone detected using marijuana should be discharged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At this installation or command we need more education about drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't mind if personnel in my Service use marijuana when they're off-duty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of my friends use drugs, at least marijuana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My spouse or the person I date disapproves of drug use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In our training sessions, we don't spend enough time talking about drug abuse issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

63. When was the last time you had to give a urine sample for drug testing?

- ☐ In the past 30 days
- ☐ 5-8 weeks ago
- ☐ 2-6 months ago
- ☐ 7-12 months ago
- ☐ 13 months to 3 years ago
- ☐ More than 3 years ago
- ☐ I've never given a urine sample for drug testing

64. Think about the last time you had to give a urine sample for drug testing. How easy was it for you to predict that you were going to be tested?

- ☐ Very easy to predict
- ☐ Somewhat easy to predict
- ☐ Somewhat hard to predict
- ☐ Very hard to predict
- ☐ I've never given a urine sample for drug testing

65. If the military stopped testing people for drugs, how likely do you think you would be to try drugs once or twice?

- ☐ Very likely
- ☐ Somewhat likely
- ☐ Somewhat unlikely
- ☐ Very unlikely
- ☐ Definitely wouldn't try drugs

66. If the military stopped testing people for drugs, how likely do you think you would be to use drugs once a month or more often?

- ☐ Very likely
- ☐ Somewhat likely
- ☐ Somewhat unlikely
- ☐ Very unlikely
- ☐ Definitely wouldn't use drugs

67. When did you last use each type of drug listed below for non-medical purposes?

	LAST USED THIS TYPE OF DRUG						
(Darken one circle on each line)	1-30 Days Ago	5-8 Weeks Ago	2-6 Months Ago	7-12 Months Ago	13 Months to 3 Years Ago	More Than 3 Years Ago	Ne Use
Marijuana or hashish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PCP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LSD or other hallucinogens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cocaine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amphetamines or other stimulants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tranquilizers or other depressants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barbiturates or other sedatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heroin or other opiates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analgesics or other narcotics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inhalants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Designer" drugs ("Ecstasy," etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anabolic steroids	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The next question deals with general health behaviors.

68. During the past 30 days, how often did you do each of the following?

(Darken one circle on each line)	About Every Day	5-6 Days a Week	3-4 Days a Week	1-2 Days a Week	1-3 Days in Past Month	Never in Past Month
Run, jog, bicycle, or briskly walk or hike for 20 minutes or more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eat at least two full meals in 1 day (count breakfast, if eaten)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engage for 20 minutes or more in other strenuous physical activity (e.g., handball, soccer, racquet sports, swimming laps)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eat breakfast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get more than 6 consecutive hours of sleep in 1 day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Floss between your teeth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engage in mild physical activity (e.g., baseball, bowling, volleyball, other sports) more for the recreation than for the exercise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The next question asks about some things that affect people on their work days.

69. Please indicate on how many work days in the past 12 months these things ever happened to you.

	NUMBER OF WORK DAYS IN PAST 12 MONTHS								
(Darken one circle on each line)	40 or More	21-39	12-20	7-11	4-6	3	2	1	None
I was late for work by 30 minutes or more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I left work early for a reason other than an errand or early holiday leave	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was hurt in an on-the-job accident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worked below my normal level of performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I did not come to work at all because of an illness or a personal accident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The next question asks about medical care that you received and illnesses that you had in the past 12 months. Do not count any times when you took another family member or someone else to receive medical care.

70. In the past 12 months, how many times were you ...

NUMBER OF TIMES IN PAST 12 MONTHS

(Darken one circle on each line)

	40 or More	21-39	12-20	7-11	4-6	3	2	1	None
Seen as a patient in a hospital emergency room?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Admitted to a hospital or similar facility for a stay of at least 1 night?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospitalized for a week or longer?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seen as an outpatient by a general medical doctor at a military facility?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seen as an outpatient by a general medical doctor at a civilian facility?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seen as an outpatient by a medical specialist (either military or civilian)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sick with symptoms such as runny nose or eyes, feeling flushed or sweaty, chills, nausea or vomiting, stomach cramps, diarrhea, muscle pains, or severe headaches?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

71. In the past 12 months, did you have any overnight hospital stays for treatment of an injury?

- ☐ Yes
- ☐ No

72. How often do you use seat belts when you drive or ride in a car?

- ☐ Always
- ☐ Nearly always
- ☐ Sometimes
- ☐ Seldom
- ☐ Never
- ☐ Don't drive or ride in a car

73. In your entire life, how many times did you drive or ride on a motorcycle?

- ☐ 100 or more times
- ☐ 40-99 times
- ☐ 21-39 times
- ☐ 11-20 times
- ☐ 1-10 times
- ☐ Never in my life

74. In the past 12 months, how many times did you drive or ride on a motorcycle?

- ☐ 40 or more times
- ☐ 21-39 times
- ☐ 11-20 times
- ☐ 1-10 times
- ☐ Never in the past 12 months

75. In the past 12 months, how often did you wear a helmet when you drove or rode on a motorcycle?

- ☐ Always
- ☐ Nearly always
- ☐ Sometimes
- ☐ Seldom
- ☐ Never
- ☐ Didn't drive or ride on a motorcycle in the past 12 months

76. In the past 12 months, how many times did you ride a bicycle?

- ☐ 40 or more times
- ☐ 21-39 times
- ☐ 11-20 times
- ☐ 1-10 times
- ☐ Never in the past 12 months

77. In the past 12 months, how often did you wear a helmet when you rode a bicycle?

- ☐ Always
- ☐ Nearly always
- ☐ Sometimes
- ☐ Seldom
- ☐ Never
- ☐ Didn't ride a bicycle in the past 12 months

78. In general, how would you describe your health?

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair or poor

79. Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

- ☐ 28-30 days (about every day)
- ☐ 20-27 days (5-6 days a week, average)
- ☐ 11-19 days (3-4 days a week, average)
- ☐ 4-10 days (1-2 days a week, average)
- ☐ 2-3 days in the past 30 days
- ☐ Once in the past 30 days
- ☐ Never in the past 30 days

80. Now, thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

- ☐ 28-30 days (about every day)
- ☐ 20-27 days (5-6 days a week, average)
- ☐ 11-19 days (3-4 days a week, average)
- ☐ 4-10 days (1-2 days a week, average)
- ☐ 2-3 days in the past 30 days
- ☐ Once in the past 30 days
- ☐ Never in the past 30 days

81. During the past 30 days, how often did poor physical or mental health keep you from doing your usual activities, such as work or recreation?

- ☐ 28-30 days (about every day)
- ☐ 20-27 days (5-6 days a week, average)
- ☐ 11-19 days (3-4 days a week, average)
- ☐ 4-10 days (1-2 days a week, average)
- ☐ 2-3 days in the past 30 days
- ☐ Once in the past 30 days
- ☐ Never in the past 30 days

82. During the past 12 months, how much stress did you experience at work or while carrying out your military duties?

- ☐ A great deal
- ☐ A fairly large amount
- ☐ Some
- ☐ A little
- ☐ None at all

83. During the past 12 months, how much stress did you experience in your family life or in a relationship with a person you live with or date seriously?

- ☐ A great deal
- ☐ A fairly large amount
- ☐ Some
- ☐ A little
- ☐ None at all

84. During the past 12 months, how much did stress at work interfere with your ability to perform your military job?

- ☐ A lot
- ☐ Some
- ☐ A little
- ☐ Not at all
- ☐ Had no stress at work in the past 12 months

85. During the past 12 months, how much did stress in your family life interfere with your ability to perform your military job?

- ☐ A lot
- ☐ Some
- ☐ A little
- ☐ Not at all
- ☐ Had no stress in the family in the past 12 months

86. In the past 12 months, have you had 2 weeks or more during which you felt sad, blue, or depressed, or when you lost all interest in things that you usually cared about or enjoyed?

- ☐ Yes
- ☐ No

87. In the past 12 months, have you felt depressed or sad much of the time?

- ☐ Yes
- ☐ No

88. In your entire life, have you ever had 2 years or more when you felt sad or depressed on most days, even if you felt okay sometimes?

- ☐ Yes
- ☐ No

89. How much of the time during the past week did you feel depressed?

- ☐ 5-7 days
- ☐ 3-4 days
- ☐ 1-2 days
- ☐ Less than 1 day or never in the past week

90. During the past 12 months, how much stress did you experience from each of the following:

AMOUNT OF STRESS IN PAST 12 MONTHS

(Darken one circle on each line)

	A Great Deal	A Fairly Large Amount	Some	A Little	None at All	Doesn't Apply
Being deployed at sea or in the field	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having a permanent change of station (PCS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems in your relationships with the people you work with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems in your relationship with your immediate supervisor(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concern about your performance rating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increases in your work load	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decreases in your work load	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being away from your family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changes in your personal life, such as the birth of a baby, a divorce or breakup, or a death in the family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflicts between your military and family responsibilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems with money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems with housing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health problems that you had	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health problems that your family members had	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Behavior problems in some of your children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

91. When you feel pressured, stressed, depressed, or anxious, how often do you engage in each of the following activities?

(Darken one circle on each line)

	Frequently	Sometimes	Rarely	Never
Talk to a friend or family member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Light up a cigarette	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Say a prayer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercise or play sports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engage in a hobby	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get something to eat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smoke marijuana or use other illegal drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Think of a plan to solve the problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Think about hurting yourself or killing yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For these next questions, "mental health professional" refers to a psychologist, psychiatrist, clinical social worker, or other mental health counselor.

92. In the past 12 months, did you receive mental health counseling or therapy ... Yes No

From a mental health professional at a military facility? (see the above box)	<input type="radio"/>	<input type="radio"/>
From a general doctor at a military facility?	<input type="radio"/>	<input type="radio"/>
From a military chaplain?	<input type="radio"/>	<input type="radio"/>
From a civilian mental health professional? (see the above box)	<input type="radio"/>	<input type="radio"/>
From a general medical doctor at a civilian facility?	<input type="radio"/>	<input type="radio"/>
From a civilian pastor, rabbi, or other pastoral counselor?	<input type="radio"/>	<input type="radio"/>

93. Do you think it would damage a person's military career to seek mental health counseling through the military?

- ☐ Yes, seeking any mental health counseling will damage a person's career, regardless of the problem
- ☐ It may or may not damage a person's career, depending on the problem
- ☐ No, it definitely wouldn't damage a person's career

94. At any time in the past 12 months, did you feel you needed counseling or therapy from a mental health professional (either military or civilian)?

- ☐ Yes
- ☐ No

The next questions refer to your height, weight, and general health.

95. About how tall are you without shoes on?

- | | |
|---|---|
| <input type="radio"/> 4 feet, 7 inches | <input type="radio"/> 5 feet, 9 inches |
| <input type="radio"/> 4 feet, 8 inches | <input type="radio"/> 5 feet, 10 inches |
| <input type="radio"/> 4 feet, 9 inches | <input type="radio"/> 5 feet, 11 inches |
| <input type="radio"/> 4 feet, 10 inches | <input type="radio"/> 6 feet, 0 inches |
| <input type="radio"/> 4 feet, 11 inches | <input type="radio"/> 6 feet, 1 inch |
| <input type="radio"/> 5 feet, 0 inches | <input type="radio"/> 6 feet, 2 inches |
| <input type="radio"/> 5 feet, 1 inch | <input type="radio"/> 6 feet, 3 inches |
| <input type="radio"/> 5 feet, 2 inches | <input type="radio"/> 6 feet, 4 inches |
| <input type="radio"/> 5 feet, 3 inches | <input type="radio"/> 6 feet, 5 inches |
| <input type="radio"/> 5 feet, 4 inches | <input type="radio"/> 6 feet, 6 inches |
| <input type="radio"/> 5 feet, 5 inches | <input type="radio"/> 6 feet, 7 inches |
| <input type="radio"/> 5 feet, 6 inches | <input type="radio"/> 6 feet, 8 inches |
| <input type="radio"/> 5 feet, 7 inches | <input type="radio"/> 6 feet, 9 inches |
| <input type="radio"/> 5 feet, 8 inches | |

96. About how much do you weigh without shoes on? (WOMEN: If you are currently pregnant, please enter your usual weight before you became pregnant.)

- Enter your weight in the boxes. Use all three boxes. Write ONE number in each box.

- Then, darken the matching circle below each box.

POUNDS

0	1	2
3	4	5
6	7	8
9	0	1
2	3	4
5	6	7
8	9	0
1	2	3
4	5	6
7	8	9
0	1	2
3	4	5
6	7	8
9	0	1

97. When was the last time you had your blood pressure checked by a doctor or other health professional?

- ☐ During the past 30 days
- ☐ More than 1 month ago but within the past 6 months
- ☐ More than 6 months ago but within the past year
- ☐ More than 1 year ago but within the past 2 years
- ☐ More than 2 years ago
- ☐ Don't know/don't remember
- ☐ Never had my blood pressure checked

98. The last time you had your blood pressure checked, did the doctor or other health professional say your blood pressure was high, low, or normal?

- ☐ High
- ☐ Low
- ☐ Normal
- ☐ Something else
- ☐ Not told
- ☐ Don't know/don't remember
- ☐ Never had my blood pressure checked

99. Have you ever been told by a doctor or other health professional that you had high blood pressure?

- ☐ Yes
- ☐ Yes, but only when I was pregnant
- ☐ No
- ☐ Don't know

100. Has a doctor ever prescribed medication to help lower your high blood pressure?

- ☐ Yes
- ☐ No
- ☐ Never had high blood pressure

101. Has a doctor or other health professional ever advised you to take any of the following actions to help lower your blood pressure? (Darken one circle on each line)

- ☐ Never had high blood pressure [Go to Question 103]

Doesn't Apply

To lower my blood pressure, a health professional has advised me to:

- | | Yes | No |
|---|-----------------------|-----------------------|
| Diet to lose weight | <input type="radio"/> | <input type="radio"/> |
| Cut down on salt or sodium in my diet | <input type="radio"/> | <input type="radio"/> |
| Exercise | <input type="radio"/> | <input type="radio"/> |
| Stop smoking | <input type="radio"/> | <input type="radio"/> |
| Cut down on my use of alcohol | <input type="radio"/> | <input type="radio"/> |

102. Are you currently taking any of the following actions to help lower your blood pressure? (Darken one circle on each line)

Doesn't Apply

- | | Yes | No |
|---|-----------------------|-----------------------|
| To lower my blood pressure, I am currently: | | |
| Dieting to lose weight | <input type="radio"/> | <input type="radio"/> |
| Cutting down on salt or sodium in my diet | <input type="radio"/> | <input type="radio"/> |
| Exercising | <input type="radio"/> | <input type="radio"/> |
| Not smoking | <input type="radio"/> | <input type="radio"/> |
| Cutting down on my use of alcohol | <input type="radio"/> | <input type="radio"/> |
| Taking prescribed blood pressure medication | <input type="radio"/> | <input type="radio"/> |

103. When was the last time you had your cholesterol checked by a doctor or other health professional?

- ☐ During the past 30 days
- ☐ More than 1 month ago but within the past 6 months
- ☐ More than 6 months ago but within the past year
- ☐ More than 1 year ago but within the past 2 years
- ☐ More than 2 years ago but within the past 5 years
- ☐ More than 5 years ago
- ☐ Don't know/don't remember
- ☐ Never had my cholesterol checked

104. Have you ever been told by a doctor or other health professional that your cholesterol level was high?

- ☐ Yes
- ☐ No
- ☐ Don't know/don't remember
- ☐ Never had my cholesterol checked

105. Has a doctor or other health professional ever advised you to cut down on fat and cholesterol in your diet—regardless of whether your cholesterol level was high?

- ☐ Yes
- ☐ No

106. Has a doctor ever prescribed medication to help lower your cholesterol level?

- ☐ Yes
- ☐ No
- ☐ Never had high cholesterol

107. Are you currently taking any of the following actions to help lower your cholesterol level?

- ☐ Never had high cholesterol [Go to Question 108]

To lower my cholesterol level,
I'm currently:

- | | Yes | No |
|---|-----------------------|-----------------------|
| Cutting down on fat and cholesterol in my diet | <input type="radio"/> | <input type="radio"/> |
| Taking prescribed medication to help lower my cholesterol level | <input type="radio"/> | <input type="radio"/> |

108. In the past 12 months, did you have a dental check-up?

- ☐ Yes
- ☐ No

109. If you did not have a dental check-up in the past 12 months, please indicate whether each of the following reasons for not having a dental check-up applied to you. (If you had a dental check-up in the past 12 months, please go to Question 110.)

I did not have a dental check-up in the past 12 months because ...

- | | Yes | No |
|--|-----------------------|-----------------------|
| I could not get time off from work | <input type="radio"/> | <input type="radio"/> |
| I could not get an appointment with a military dentist | <input type="radio"/> | <input type="radio"/> |
| I would have had to wait too long at the military dental clinic before I could be seen | <input type="radio"/> | <input type="radio"/> |
| I couldn't afford to go to a civilian dentist .. | <input type="radio"/> | <input type="radio"/> |
| I didn't think I needed a check-up | <input type="radio"/> | <input type="radio"/> |
| I don't like going to the dentist(s) at this installation | <input type="radio"/> | <input type="radio"/> |
| I don't like going to any dentists | <input type="radio"/> | <input type="radio"/> |

110. In the past 12 months, were you required to get dental work done before you could be deployed at sea or in the field?

- ☐ Yes
- ☐ No
- ☐ I wasn't deployed in the past 12 months

111. Since you joined the military, have you ever lost any permanent teeth (not counting wisdom teeth) because of ...

- | | Yes | No |
|--------------------------------|-----------------------|-----------------------|
| Gum disease? | <input type="radio"/> | <input type="radio"/> |
| Cavities? | <input type="radio"/> | <input type="radio"/> |
| An injury to your mouth? | <input type="radio"/> | <input type="radio"/> |
| Some other reason? | <input type="radio"/> | <input type="radio"/> |

The next set of questions asks about sexual behavior. When we ask if you have "had sex" with a person, we are asking if you had vaginal or anal intercourse with that person. Specifically:

VAGINAL INTERCOURSE is when a man's penis is inside a woman's vagina.

ANAL INTERCOURSE is when a man's penis is inside his partner's anus or rectum.

Please answer these questions as accurately as you can. Remember, **NO ONE** will ever link your answers with your identity.

112. In your entire life, how many people have you had sex with? (Remember, we mean vaginal or anal intercourse.)
- ☐ 20 or more people
 - ☐ 10-19 people
 - ☐ 5-9 people
 - ☐ 2-4 people
 - ☐ 1 person
 - ☐ I have never had sex
113. When was the last time you had sex?
- ☐ During the past 30 days
 - ☐ More than 1 month ago but within the past 6 months
 - ☐ More than 6 months ago but within the past 12 months
 - ☐ More than 12 months ago but within the past 2 years
 - ☐ More than 2 years ago
 - ☐ I have never had sex
114. The last time you had sex, did you or your partner use a condom?
- ☐ Yes
 - ☐ No
 - ☐ I have never had sex
115. In the past 12 months, how many people have you had sex with? (Remember, we mean vaginal or anal intercourse.)
- ☐ 20 or more people
 - ☐ 10-19 people
 - ☐ 5-9 people
 - ☐ 2-4 people
 - ☐ 1 person
 - ☐ I did not have sex in the past 12 months
116. In the past 12 months, about how often did you or your partner(s) use a condom when you had sex with someone on an on-going basis, such as your spouse, a girlfriend, or boyfriend?
- ☐ Every time
 - ☐ Most of the time
 - ☐ About half of the time
 - ☐ Hardly any of the time
 - ☐ I had sex with someone on an on-going basis in the past 12 months, but never used a condom
 - ☐ I did not have sex with someone on an on-going basis in the past 12 months
 - ☐ I never had sex with someone on an on-going basis in my entire life
117. In the past 12 months, about how often did you or your partner(s) use a condom when you had sex with a casual partner—that is, someone you know and have sex with occasionally?
- ☐ Every time
 - ☐ Most of the time
 - ☐ About half of the time
 - ☐ Hardly any of the time
 - ☐ I had sex with a casual partner in the past 12 months, but never used a condom
 - ☐ I did not have sex with a casual partner in the past 12 months
 - ☐ I never had sex with a casual partner in my entire life
118. In the past 12 months, about how often did you or your partner(s) use a condom when you had sex in a one-time encounter—that is, someone you had sex with once and don't plan to have sex with again?
- ☐ Every time
 - ☐ Most of the time
 - ☐ About half of the time
 - ☐ Hardly any of the time
 - ☐ I had sex in a one-time encounter in the past 12 months, but never used a condom
 - ☐ I did not have sex in a one-time encounter in the past 12 months
 - ☐ I never had sex in a one-time encounter in my entire life
119. In the past 12 months, did you have a sexually transmitted disease, such as gonorrhea, syphilis, chlamydia, or genital herpes?
- ☐ Yes
 - ☐ No
120. In your entire life, have you ever had a sexually transmitted disease, such as gonorrhea, syphilis, chlamydia, or genital herpes?
- ☐ Yes
 - ☐ No

121. How likely do you think it is that a person will get AIDS or the AIDS virus infection from the following:

(Darken one circle on each line)	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely	Definitely Not Possible	Don't Know
Working in an office with someone who has the AIDS virus?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating in a restaurant or dining facility where the cook has the AIDS virus?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sharing plates, forks, or glasses with someone who has the AIDS virus?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sharing a barracks, room, or other living quarters with someone who has the AIDS virus?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following question deals with gambling, placing bets, or playing games for money. This would include buying lottery tickets or taking part in a sport pool.

122. The following statements describe some things connected with placing bets or gambling that happen to people. Please indicate whether any of these things has ever happened to you.

(Darken one circle on each line)

	Yes	No
You found yourself more and more preoccupied with gambling	<input type="radio"/>	<input type="radio"/>
You needed to gamble with more and more money to achieve the excitement you desired	<input type="radio"/>	<input type="radio"/>
You felt restless or irritable when you were unable to gamble, or when you tried not to gamble	<input type="radio"/>	<input type="radio"/>
You found yourself gambling to escape from problems	<input type="radio"/>	<input type="radio"/>
After losing money gambling, you went back another day to try to win back your money	<input type="radio"/>	<input type="radio"/>
You lied to your family, employer, or other important people in your life to hide the extent of your gambling	<input type="radio"/>	<input type="radio"/>
You jeopardized or lost relationships, a job, school opportunities, or career opportunities because of gambling	<input type="radio"/>	<input type="radio"/>
Someone provided you with money to relieve a desperate financial situation caused by gambling	<input type="radio"/>	<input type="radio"/>

This next set of questions deals mainly with your length of service, military job, and recent duty assignments.

123. As of today, how many months have you been assigned to your present permanent post, base, ship, or duty station? (Include any extension of your present tour. Do not count previous tours at the duty station.)

- ☐ 1 month or less
- ☐ 2-3 months
- ☐ 4-6 months
- ☐ 7-12 months
- ☐ 13-18 months
- ☐ 19-24 months
- ☐ 25-36 months
- ☐ More than 3 years

124. How long have you been on active duty? If you had a break in service, count current time and time in previous tours, but not time during the break in service.

For partial year periods of less than 6 months, round down to the last full year of service. For partial year periods of 6 months or more, round up to the next year.

• Enter the number of years in the "Years" boxes. Use both boxes. Write ONE number in each box.

• If you have been on active duty for less than 6 months, enter "00" in the "Years" boxes.

• Then, darken the matching circle below each box.

YEARS

0	1
2	3
4	5
6	7
8	9

125. During the past 30 days, how many days were you on official leave? (Do not include overnight pass, 3-day pass, shore leave, or liberty.)

- Use both boxes. Write ONE number in each box.
- Then, darken the matching circle below each box.
- ☐ I had no official leave in the past 30 days.

DAYS

0	1
2	3
4	5
6	7
8	9

126. During the past 30 days, how many full 24-hour days were you deployed at sea or in the field?

- Use both boxes. Write ONE number in each box.
- Then, darken the matching circle below each box.
- ☐ I was not deployed in the past 30 days.

DAYS

0	1
2	3
4	5
6	7
8	9

127. Think about the last time you were deployed at sea or in the field for 24 hours or more. When did your last deployment end?

- ☐ Never deployed at sea or in the field
- ☐ 1-7 days ago
- ☐ 8-13 days ago
- ☐ 2-4 weeks ago
- ☐ 5-7 weeks ago
- ☐ 2-3 months ago
- ☐ 4-6 months ago
- ☐ 7-12 months ago
- ☐ More than 1 year ago

128. During the past 30 days, how much of the time did you work in jobs outside your current primary MOS/PS/Rating/Designator/AFSC?

- ☐ All of the time
- ☐ Most of the time
- ☐ About half of the time
- ☐ Some, but less than half of the time
- ☐ None of the time

129. What is the ZIP code or APO or FPO number for the post, base, ship, or other duty station where you spent most of your duty time during the past 12 months?

- First, enter the ZIP/APO/FPO number in the boxes. Use all five boxes. Write ONE number in each box.
- Then, darken the matching circle below each box.

ZIP/APO/F

0	1	2	3	4
5	6	7	8	9
0	1	2	3	4
5	6	7	8	9
0	1	2	3	4
5	6	7	8	9
0	1	2	3	4
5	6	7	8	9
0	1	2	3	4
5	6	7	8	9

130. Which of the following categories best describes your military job? (If you need to, please refer to the handout giving examples for different job categories.) (Darken only one circle)

ENLISTED

- ☐ Infantry, Gun Crew, or Seamanship Specialist
- ☐ Electronic Equipment Repairman
- ☐ Communications or Intelligence Specialist
- ☐ Health Care Specialist
- ☐ Other Technical or Allied Specialist
- ☐ Functional Support and Administration
- ☐ Electrical/Mechanical Equipment Repairman
- ☐ Craftsman
- ☐ Service and Supply Handler
- ☐ Non-Occupational

OFFICER

- ☐ General Officer or Executive
- ☐ Tactical Operations Officer
- ☐ Intelligence Officer
- ☐ Engineering or Maintenance Officer
- ☐ Scientist or Professional (not involved with health care)
- ☐ Health Care Officer
- ☐ Administrator
- ☐ Supply, Procurement, or Allied Officer
- ☐ Non-Occupational

131. All in all, how satisfied or dissatisfied are you with your work assignment?

- ☐ Very satisfied
- ☐ Satisfied
- ☐ Dissatisfied
- ☐ Very dissatisfied

- If you are **FEMALE**, PLEASE GO TO QUESTION 134.
- **MALES**, PLEASE CONTINUE WITH QUESTION 132.

MALES

132. In the past 12 months, about how often did you examine your testicles for lumps?

- ☐ More than once a month
- ☐ About once a month
- ☐ Every other month or so
- ☐ 3-5 days in the past 12 months
- ☐ Once or twice in the past 12 months
- ☐ Never in the past 12 months

133. Have you ever received information or instruction on how to examine your testicles for lumps?

- ☐ Yes
- ☐ No

MALES PLEASE STOP HERE.

PLACE THE QUESTIONNAIRE IN THE BOX AS YOU LEAVE THE ROOM. THANK YOU FOR YOUR TIME AND COOPERATION.

FEMALES

134. When was the last time you had a Pap test or Pap smear to check for cancer of the cervix?

- ☐ Within the past year
- ☐ More than 1 year ago but within the past 2 years
- ☐ More than 2 years ago but within the past 3 years
- ☐ More than 3 years ago
- ☐ Don't know/don't remember
- ☐ Never had a Pap test

135. Have you had a hysterectomy, or operation to remove your uterus?

- ☐ Yes
- ☐ No

136. In the past 12 months, how much stress did you experience as a woman in the military?

- ☐ A great deal
- ☐ A fairly large amount
- ☐ Some
- ☐ A little
- ☐ None at all

137. To the best of your knowledge, when was the last time you were pregnant?

- ☐ Currently pregnant
- ☐ May be pregnant now, but don't know for certain
- ☐ Within the past year but not now
- ☐ More than 1 year ago but within the past 2 years
- ☐ More than 2 years ago but within the past 5 years
- ☐ More than 5 years ago
- ☐ Have never been pregnant

FEMALES, PLEASE CONTINUE WITH THE NEXT QUESTIONS ON PAGE 24

The next set of questions refers to the last time you were pregnant. If you are currently pregnant, please answer these questions for this pregnancy. "Pregnancy checkups" refer to checkups for weight, blood pressure, physical exams, procedures such as ultrasound, or other medical procedures related to pregnancy.

138. Think about your last pregnancy (or your current pregnancy). How long after you became pregnant did you have your first pregnancy checkup?

- ☐ Within the first 3 months after becoming pregnant
- ☐ 4-6 months after becoming pregnant
- ☐ More than 6 months after becoming pregnant
- ☐ Did not have any pregnancy checkups, or have not had first checkup
- ☐ Have never been pregnant

139. During your last pregnancy (or your current pregnancy), about how often did you smoke a cigarette, even if one or two puffs?

- ☐ Daily
- ☐ Almost daily, or 3-6 days a week
- ☐ 1-2 days a week
- ☐ Several times a month (but less than once a week)
- ☐ Once a month or less (but at least once)
- ☐ Never smoked cigarettes during last (or current) pregnancy
- ☐ Never been pregnant

140. On those days when you smoked cigarettes during your last pregnancy (or your current pregnancy), how many cigarettes would you usually smoke?

- ☐ About 2 or more packs (more than 35 cigarettes)
- ☐ About 1½ packs (26 to 35 cigarettes)
- ☐ About 1 pack (16-25 cigarettes)
- ☐ About ½ pack (6-15 cigarettes)
- ☐ 1-5 cigarettes
- ☐ Less than 1 cigarette, on the average
- ☐ Never smoked cigarettes during last (or current) pregnancy
- ☐ Never been pregnant

[Please continue with Question 141]

141. During your last pregnancy (or your current pregnancy), about how often did you drink alcoholic beverages (i.e., beer, wine, or liquor)?

- ☐ Daily
- ☐ Almost daily, or 3-6 days a week
- ☐ 1-2 days a week
- ☐ Several times a month (but less than once a week)
- ☐ Once a month or less (but at least once)
- ☐ Never drank alcohol during last (or current) pregnancy
- ☐ Never been pregnant

142. On those days when you drank alcoholic beverages during your last pregnancy (or your current pregnancy), how many drinks would you usually have?

- ☐ 5 or more drinks
- ☐ 4 drinks
- ☐ 3 drinks
- ☐ 2 drinks
- ☐ 1 drink
- ☐ Less than 1 drink, on the average
- ☐ Never drank alcohol during last (or current) pregnancy
- ☐ Never been pregnant

THANK YOU VERY MUCH FOR YOUR TIME, EFFORT, AND COOPERATION IN COMPLETING THIS QUESTIONNAIRE.

PLEASE PLACE THE QUESTIONNAIRE IN THE BOX AS YOU LEAVE THE ROOM.

FSU		Nucleus Installation:	
THIS BLOCK FOR OFFICE USE ONLY	1	1	1
	2	2	2
	3	3	3
	4	4	4
	5	5	5
	6	6	6
	7	7	7
	8	8	8
	9	9	9
	10	10	10
		Survey Phase	
		I	II
		<input type="radio"/>	<input type="radio"/>

REPORT DOCUMENTATION PAGE

The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB Control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

1. Report Date (DD MM YY) 20 11 00		2. Report Type Final		3. DATES COVERED (from - to) Jun 99 to Sep 00	
4. TITLE AND SUBTITLE Alcohol Use, Alcohol-Related Problems, and Perceived Stress and Coping Among U.S. Marine Corps Personnel				5a. Contract Number:	
6. AUTHORS LT Bonita McClenny, PhD and R. Dawn Comstock, M.S.				5b. Grant Number:	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Health Research Center P.O. Box 85122 San Diego, CA 92186-5122				5c. Program Element: HQMC Reimbursable	
8. SPONSORING/MONITORING AGENCY NAMES(S) AND ADDRESS(ES) Chief, Bureau of Medicine and Surgery MED-02 2600 E St NW Washington DC 20372-5300				5d. Project Number:	
				5e. Task Number:	
				5f. Work Unit Number: 6906	
				9. PERFORMING ORGANIZATION REPORT NUMBER Report No. 00-41	
				10. Sponsor/Monitor's Acronyms(s) BUMED	
				11. Sponsor/Monitor's Report Number(s)	

12 DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited.

13. SUPPLEMENTARY NOTES

14. ABSTRACT (maximum 200 words)

This report is a synopsis of health related behaviors among U.S. Marine Corps personnel focusing on alcohol use, alcohol-related problems, and perceived stress and coping. This report presents findings from analyses of U.S. Marine Corps data taken from the Department of Defense series of Worldwide Surveys of Health Related Behaviors Among Military Personnel with an emphasis on the 1998 survey.

15. SUBJECT TERMS
alcohol behaviors and use; stress; coping; Marine Corps personnel

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UNCL	18. NUMBER OF PAGES 110	19a. NAME OF RESPONSIBLE PERSON Commanding Officer
a. REPORT UNCL	b. ABSTRACT UNCL	c. THIS PAGE UNCL			19b. TELEPHONE NUMBER (INCLUDING AREA CODE) COMM/DSN: (619) 553-8429